

THE ECHINODERMS NEWSLETTER

Number 13. August 1984.

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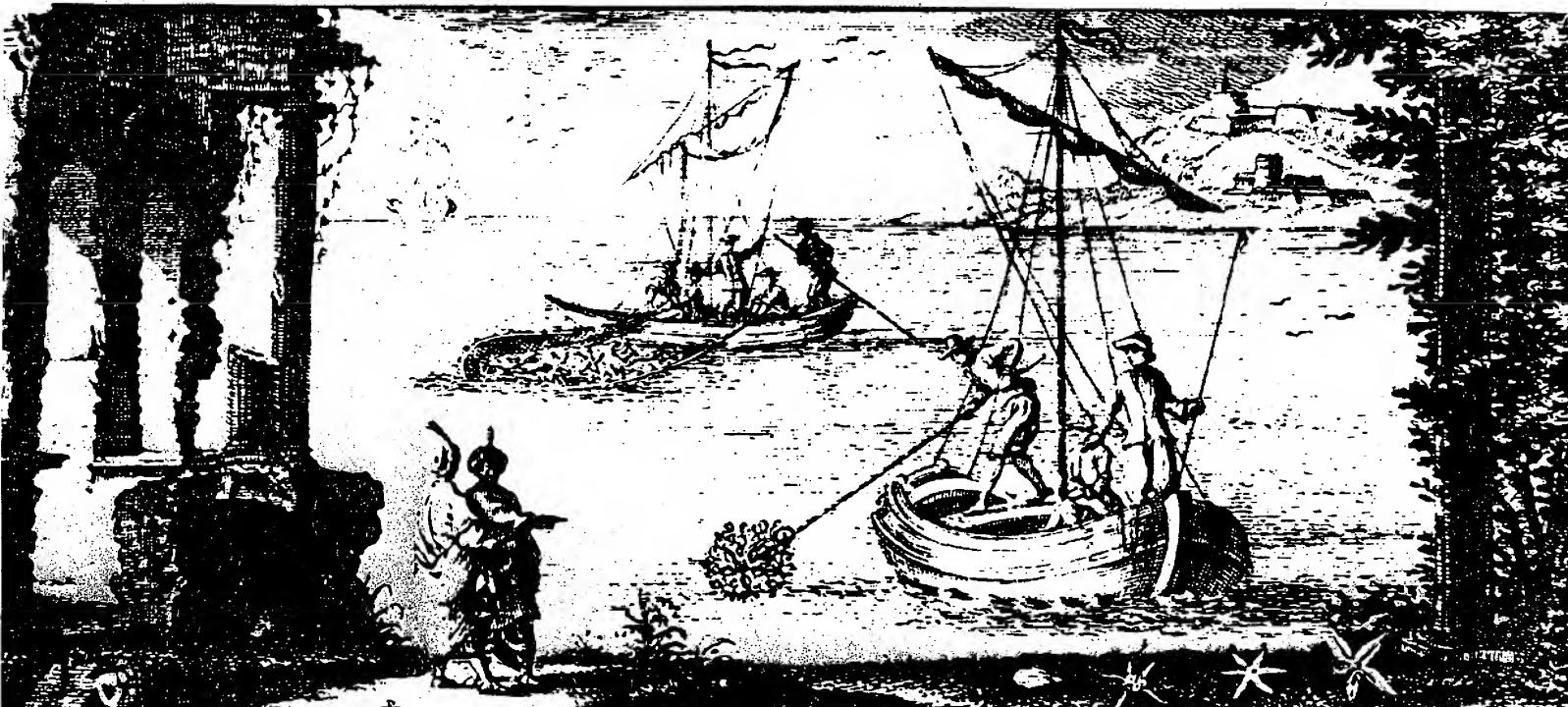
Distributed by the Department of Invertebrate Zoology
National Museum of Natural History
Smithsonian Institution
Washington, D.C.
(David Pawson, Maureen E. Downey, Cynthia Ahearn,
Linda Cole, Tim Coffer)

The newsletter generally contains information concerning meetings and conferences and publications of interest to echinoderm biologists, titles of theses and dissertations on echinoderms, and research interests and addresses of echinoderm biologists.

The newsletter is not intended to be a part of the scientific literature, and should not be cited, abstracted, or reprinted as a published document.

International Echinoderms Conference--Galway (1984)

The organizing chairman is Brendan Keegan (Zoology Department, University College, Galway, Ireland). The conference is scheduled for September 24-29, 1984.



J.H. Linck. 1733. De Stellis Marinis.

Dennis M. Devaney

On August 13, 1983, Dr. Dennis M. Devaney disappeared while scuba diving off the coast of Hawai'i near Mahukona. He was 45 years old. He is survived by his wife Gail, and his daughter Denise and son, Leon.

Dennis was born in Los Angeles, California. He received a A.B. degree from Occidental College, California in 1960, an M.A. from the University of California at Los Angeles in 1962 and a Ph.D. from the University of Hawaii in 1968. He spent a year as a Postdoctoral Fellow at the Smithsonian Institution in 1968-69. In 1967 he became an Invertebrate Zoologist at the Bernice P. Bishop Museum in Hawaii, and from 1979 onwards he was Chairman of the Department of Invertebrate Zoology at the Bishop Museum. He was also a member of the Affiliate Graduate Faculty at the University of Hawaii.

His main scientific interest was the systematics and zoogeography of ophiuroids, particularly shallow-water tropical Indo-Pacific forms, and he was a highly respected leader in this area of research. His long-term research objectives included a monographic study of these brittle-stars, and to this end he published several major papers on systematics of Indo-Pacific ophiuroids. Many other topics attracted his attention, including surveys and inventories of benthic faunas of Pacific islands, coral reef ecology, environmental assessment studies, and, most recently, studies of bathyal echinoderms using research submersibles.

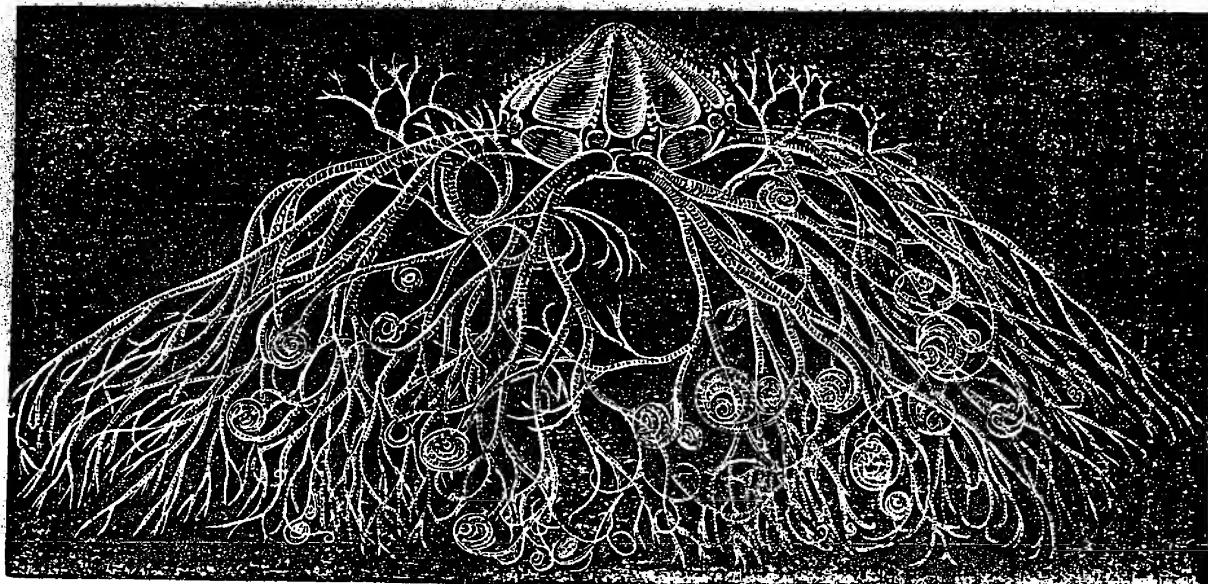
His laboratory research was mixed with an active field research program; he cast his net widely, visiting, among other places, Easter Island, New Zealand, Western Australia, Bermuda, Guam, Yap, Truk, Samoa, Enewetak and Belize. He was an avid and thoughtful collector, and many of us with an interest in Indo-Pacific marine animals are grateful to Dennis for sending us rare and interesting material.

His dedication to research in the field and in the laboratory was great, but in addition he worked hard to improve the invertebrate collections at the Bishop Museum. The combination of his zealous field activities and the support he attracted from the National Science Foundation has transformed these collections, and they now comprise one of the best regional collections in the world.

Dennis was a charming man; his infectious good humor and his dedication to his beloved echinoderms endeared him to all. He was always anxious to make the best possible job of whatever he attempted,

and this enviable striving for perfection is reflected in his publications. His research was gaining great momentum when it all ended so abruptly. His loss to marine biology and to his numerous friends is deeply felt. A brass plaque in the Classroom at the Waikiki Aquarium, Hawaii reads as follows: "This classroom is dedicated to the memory of Dennis M. Devaney, who studied and taught here. May all who enter this room share his joy, wonder, and love of the sea."

David L. Pawson



E.C. Agassiz and A. Agassiz. 1865. Seaside studies in natural history.

Publications of Dennis M. Devaney

1962. Intraspecific phenotypic and physiological variations in the purple sea urchin Strongylocentrotus purpuratus Stimpson. AIBS Bulletin 12(4):166.

1966. Post-larval skeletal changes and speciation in ophiocomid brittle stars. AAAS Miscellaneous Publication 66-15:161.

1967. An ectocommensal polynoid associated with Indo-Pacific echinoderms, primarily ophiuroids. Occasional Papers Bernice P. Bishop Museum 23(13):287-304, 5 figs.

1970. Studies on ophiocomid brittlestars. I. A new genus (Clarkcoma) of Ophiocominae with a reevaluation of the genus Ophiocoma. Smithsonian Contributions to Zoology 51: 1-41, 50 figs.

1972. Ophiuroids. In: G.A. Green (Ed.) Fifth Abrolhos Expedition, 1970. Aquinas College, Manning, Western Australia. Pp.58-60.

1973. Zoogeography and faunal composition of south-eastern Polynesian asterozoan echinoderms. Oceanography of the South Pacific 1972. UNESCO, Wellington. Pp. 357-366, 1 fig.

1973. (J.E. Randall, junior author). Investigations of Acanthaster planci in southeastern Polynesia during 1970-71. Atoll Research Bulletin No. 169, 23 pp, 3 pls., 13 figs.

1974. Shallow-water echinoderms from British Honduras, with a description of a new species of Ophiocoma (Ophiuroidea). Bulletin of Marine Science 24(1): 122-164, 16 figs.

1974. Shallow-water asterozoans of southeastern Polynesia. II. Ophiuroidea. Micronesica 10(1): 105-204, 25 figures.

1976. (with M. Kelly and others) Kaneohe: A history of change. Published for U.S. Army Corps of Engineers Pacific Ocean Division Honolulu, by Bernice P. Bishop Museum Department of Anthropology. 271 pp, 137 figs.

1977. Ophiomastix koehleri, a new ophiocomid brittlestar (Echinodermata:Ophiuroidea) from the western Indian Ocean. Proceedings of the Biological Society of Washington 90(2): 274-283, 4 figs.

1977. Octocorallia. In: Reef and shore fauna of Hawaii, 3rd Edition. Bernice P. Bishop Museum Special Publication 64(1): 119-129, 9 figures.

1977. Ctenophora. Ibidem, p. 262-269, 5 figs.

1977. (L.G. Eldredge, junior author). Scyphozoans. Ibidem, p.108-118, 9 figures.

1977. (L.G. Eldredge, senior author). Other hydrozoans. Ibidem, p. 105-107, 2 figs.

1978. A review of the genus Ophiomastix (Ophiuroidea: Ophiocomidae). Micronesica 14(2): 273-359.

1978. (W.L. Lee, senior author, with other junior authors). Part I. Resources in invertebrate systematics: problems and recommendations. American Zoologist 18(1): 167-185.

1979. (M. Titcomb, senior author, with D.B. Fellows, M.K. Pukui and D.M. Devaney). Native use of marine invertebrates in old Hawaii. *Pacific Science* 32(4): 325-386, 34 figures.

1980. (J.W. Goy, senior author). *Stenopus pyrsonotus*, a new species of stenopodidean shrimp from the Indo-west Pacific region (Crustacea: Decapoda). *Proceedings of the Biological Society of Washington* 93(3): 781-796, 6 figs.

1981. Octopus tapeworms and other parasites. *Hawaiian Shell News* 29(5): 12.

1981. (D.F. Dunn, senior author, with D.M. Devaney and B. Roth). *Stylobates*: a shell-forming sea anemone (Coelenterata, Anthozoa, Actiniidae). *Pacific Science* 34(4): 379-388, 6 figs.

1981. (A.N. Baker, senior author). New records of Ophiuroidea (Echinodermata) from Southern Australia, including new species of *Ophiacantha* and *Ophionereis*. *Transactions of the Royal Society of South Australia* 105(4): 155-178, 98 figs.

1982. Recent aspects of echinoderm systematics at Enewetak. *Western Society of Naturalists* 63rd Annual Meetings. p. 60.

In Press and In Preparation:

(L.G. Eldredge, junior author). Nemertea. *Reef and Shore Fauna of Hawaii*, 3rd Edition. Bernice P. Bishop Museum Special Publication 64(2).

Echinoderms. *Ibidem* 64(6).

Hawaiian Marine Biota. In E.A. Kay (Ed): *Encyclopedia of the Hawaiian Islands*. University Press of Hawaii.

(D.L. Pawson, senior author). The echinoderm fauna of Bermuda. *Smithsonian Contributions to the Marine Sciences*.

(with J. Marshall). Echinoderms from the Abrolhos Islands. Crinoidea and Ophiuroidea. Records of the Western Australian Museum.

Reports:

1972 (With A. Whistler). Preliminary biological survey at Kaalualu Bay, Hawaii. U.S. Army Corps of Engineers Contract No. DACW84-72-C-1103. 59 pp, 35 figs.

1974 (With J.E. Randall). Marine biological surveys and resource inventory of selected coastal sites at American Samoa. *Ibidem*, Contract No. DACW-84-74-C-0014. 100 pp, 48 figs., 10 color figs.

1975. (With G.S. Losey and J.E. Maragos). A marine biological survey of proposed construction sites for the Truk Runway. Report to Ralph Parsons Co. 69 pp.

1977 (With A. Suzumoto). Marine ecology reconnaissance survey, Auasi Harbor Project, American Samoa. U.S. Army Corps of Engineers Contract No. DACW84-77-0-0019, 22 pp, 24 figs.

1978 The benthic fauna of Cockburn Sound, Western Australia, Part III: Echinodermata: Ophiuroidea. Report to W.A. Department of Conservation and Environment. 9 pp, 10 figs.

1979 (With K.E. Schlech). A reconnaissance survey of the nearshore marine environment at Iroquois Point Naval Housing Area, Oahu, Hawaii. U.S. Army Engineer Division, Pacific Ocean AECOS Publication No. 216.

1980 (With P. Bartram, E. Guinther, W. Madden). American Samoa coral reef Inventory. U.S. Army Corps of Engineers Contract No. DACW84-79-C-0022. 314 pp.

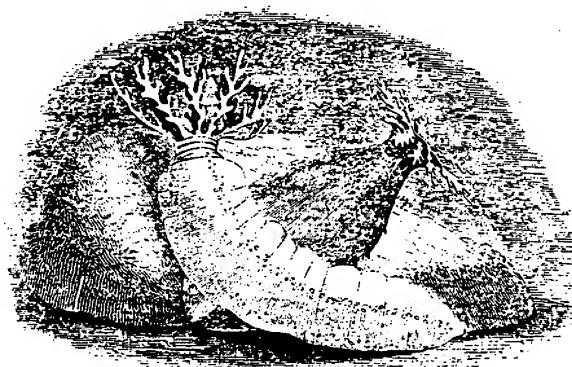
1981 (With C.L. Couret, J.I. Ford, R. Narahara, G. Roehm, G.W. Smith). American Samoa stream inventory: Island of Tutuila, American Samoa, water resources study. Ibidem, Contract No. PODED-P-64-81. 122 pp, 38 pls.

(Prepared by D.L. Pawson, with gracious help from A.N. Baker, A. Guille, G.C. Hendler, L. Marsh, P. Mladenov and A. Suzumoto).

JORGE ALBERTO PETERSEN (1932-1983)

Victim of an accident while working on the coast near the laboratory of the Centro de Biologia Marinha of the University of São Paulo, Brazil, Dr. Jorge Alberto Petersen died last year, on the 11th of February. Dr. Petersen graduated in biology in the University of Rio Grande do Sul (1960) and received his D.Sc. degree at the University of São Paulo (1965). His first works, some of them in collaboration with Burdon-Jones, of Menai Bridge, Wales, dealt with the enteropneust Balanoglossus gigas. In 1964, he started his close association with W.A. Martin and K. Johansen, of the University of Washington, which led him to stay twice in the Friday Harbor Laboratories, first as a student (1965) and then as a teacher (1970,1971) of Environmental Marine Physiology, with J. Kanwisher and K. Johansen. In 1967, he participated of the "Alpha Helix" expedition to the Amazon and Negro rivers, in Brazil, working with K. Schmidt-Nielsen and D. Bellamy. In 1975, Petersen joined the group at the Marine Laboratory of Duke University, Beaufort, organized the International Training Program in Marine Sciences and Marine Biology. He became closely associated with J.D. Costlow and John Sutherland, focusing his attention in the study of fouling. It was while he was inspecting his field works on the coast that, probably hit by an electrical shock, Petersen fell into the sea and drowned. Besides the enteropneusts, Petersen worked on problems of circulation and respiration in crustaceans and echinoderms, specially with the Johansen's group. The work he had initiated with Sutherland on Brazilian coasts about fouling and boring was very promising. His death means a severe loss to Brazil, for he was important both as a scientist and a professor at the University of São Paulo.

Prof. Dr. Erasmo G. Mendes, Director
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SEA-CUCUMBERS (*Holothuria*).

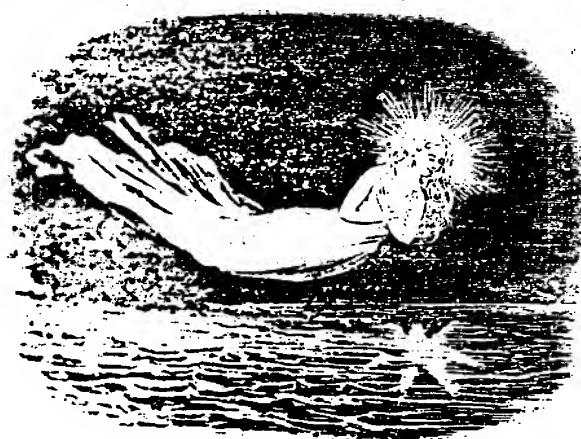
P.H. Gosse. 1851. The ocean.

1930-1984

The world's scientific community recently lost one of its most respected and creative colleagues. Haruo Kanatani, Director of the National Institute for Basic Biology (Okazaki, Japan) died in February of 1984, after a valient and extended struggle with intestinal and pancreatic cancer. The interruption of Professor Kanatani's career after only 20 years and at the height of national and international recognition of his efforts is tragic.

The remarkable insight evident throughout Professor Kanatani's experimental studies is exemplified by his early recognition of the potential value of the rapid spawning response of the starfish and by his brilliant development and use of this experimental system to ask simple, elegantly stated questions about regulation of the meiotic process at the cellular and subcellular levels. His purification of gonad-stimulating substance (GSS) from the radial nerve, of maturation-inducing substance or 1-methyladenine (MIS) from follicle cells, and of maturation-promoting factor (MPF) from the ooplasm of starfish are each extraordinary accomplishments in themselves. Furthermore, they are pivotally important steps in the development of our understanding of the cascading cellular mechanisms widely involved in oocyte maturation in the animal world.

Professor Kanatani initially developed his interest in the exactness of scientific enquiry and in the experimental approach while a student in high school near Kobe, Japan under the direction of his beloved teacher, Professor Takaya. In graduate school at the University of Tokyo, Professor Kanatani worked toward his Ph.D degree under the direction of Professor Fujii; he later completed his early work on determination of polarity in planarian regeneration during his first academic position at Misaki Marine Biological Station. It was also at Misaki Marine Biological Station that Professor Kanatani first recognized the fundamental significance of the rapid and decisive spawning response of starfishes after injection with extracts of radial nerves (GSS). On this phenomenon he based the fascinating series of experimental studies carried out in his laboratory for the next 20 years. Subsequently as Associate Professor at the Ocean Research Institute and as Professor at the National Institute for Basic Biology, efforts in his laboratory systematically demonstrated the proximate mechanisms and specific chemical messengers involved in oocyte maturation and spawning. He and others have pointed out the striking similarity between the mechanisms (not the chemicals) involved in oocyte maturation in starfishes and vertebrates.



E. Forbes. 1841. A history of British starfishes.

Professor Kanatani will be greatly missed as a scientific colleague and as a warm friend. His remarkable talents at working effectively with collaborators throughout Japan and the world are truly heroic. His fascination with science and his love for intense and friendly discussion about biology in any forum and until the early hours of the morning, have made his passing a particularly difficult experience for students and friends who have known him intimately. He was a warm and compassionate human being whose international stature in one of the primary areas of modern developmental biology and comparative endocrinology is a singular accomplishment for one so young and an inspiration to us all. He was a broadly cultured individual who loved French literature and classical music, and who enthusiastically passed these interests along to his students and gracious wife, daughter and son.

In his comparatively short scientific career, Professor Kanatani received many national and international honors. He served as a professor at the University of Tokyo before assuming his position at the National Institute for Basic Biology. He served as science advisor to the Japanese Ministry of Education. He was a research fellow at Naples, at Woods Hole, and at Bodega Bay Marine Laboratories and at Berkeley. He was a member of the organizing committee for international symposia on comparative endocrinology and developmental biology and an associate editor of several journals. He was awarded the Gold Medal by the Italian Pontifical Academy of Science in 1970, the Japan Society of Zoology prize in 1971, and the Matsunaga Prize in 1974; he was elected a foreign member of the French Academy of Science in 1981. Shortly before his death, he was recognized by his country as a Person of Cultural Merit. He was one of the youngest persons to have been thus honored by Japan.

Despite the significant productivity in his laboratory over the last 20 years, his recent appointment as Director of one of the premier research facilities in Japan, the National Institute for Basic Biology, demonstrated that he was just beginning his influence over the direction of Japanese and international thought in the subjects of reproductive and developmental biology, physiology and endocrinology. His past efforts pointed out fundamental cellular and biochemical mechanisms involved in oocyte maturation in the animal world. Recently, studies in Professor Kanatani's laboratory have helped to demonstrate that MPF is clearly involved not only in meiotic phenomena, but also universally in mitotic cell division in mammals, amphibians, fishes and starfishes. It is most unfortunate that we must proceed into the next 20 years without the guidance of his sentient scientific mind. Because of the remarkable example of his life in science, he leaves his students and colleagues with a great challenge.

Yoshitaka Nagahama

Hiroko Shirai, National Institute for Basic Biology, Okazaki
Charles W. Walker, University of New Hampshire, Durham

ICSEB - IIITHIRD INTERNATIONAL CONGRESS OF SYSTEMATIC AND EVOLUTIONARY BIOLOGY, 1985

The Congress will be held on 4-10 July 1985 at the University of Sussex, near Brighton, England. It is sponsored by the Royal Society, British Ecological Society, Linnean Society, Palaeontological Association and Systematics Association.

The major aims of this Congress are to encourage and facilitate the integration of the work of biologists in adjacent or over-lapping fields in the general area of systematic and evolutionary biology.

The programme will include a number of symposia devoted to specially-selected broad interdisciplinary themes, with invited speakers. The proposed subjects include:

Symbiosis in Evolution; Biogeographic Evolution of the Malay Archipelago; Adaptation Aspects of Physiological Processes; Co-evolution in Ecosystems and the Red Queen Hypothesis; The Measurement of Rates of Evolution; Molecular Biology and Evolutionary Theory; Co-Evolution and Systematics; Molecules vs. Morphology in Phylogeny: Conflict or Compromise? Random and Directed Events in Evolution.

Accommodation and meals will be available on the campus of the University of Sussex. In addition, hotels are available in nearby Brighton, an attractive historic resort town on the South Coast.

Anyone wishing to be placed on the mailing list, or to suggest topics for Special Interest Symposia, or to contribute to any of the Congress Symposia listed above, should write to:

Professor Barry Cox,
c/o ICSEB Congress Office,
130 Queen's Road,
Brighton, Sussex BN1 3WE

MASS MORTALITY OF ECHINOIDS IN THE MEDITERRANEAN SEA

In 1978, the presence of diseased individuals and abnormal accumulations of tests of the echinoid, Paracentrotus lividus (Cam.) were pointed out by divers along the coast of the French Riviera coast and the island of Corsica. In 1979, this pathology was observed with two others species, Arbacia lixula (L.) and Sphaerechinus granularis (L.). Answers to a questionnaire indicate that the disease has spread at least along the European coasts of the western Mediterranean.

The diseased sea urchins show lesions on the test with areas denuded of epidermis, spines, pedicellariae and podia. The visible calcareous skeleton is bordered by a zone of green organic material and a wall of raised red tissue. Lesions which start developing are totally covered with green material. The unprotected calcareous tests are sometimes used as a substratum by small foreign vagile (ciliates, flatworms, polychaetes, copepods) and/or sessile organisms (algae, sponges, polychaetes, bryozoans, monoascidians). Contaminations are induced when normal sea urchins with scratched epidermis are in contact. Infectuous agents are still unidentified.

References

HOBIAUS, E., L. FENAU, and M. HINETTE, 1980 Premières observations sur les lésions provoquées par une maladie affectant le test des oursins en Méditerranée occidentale. XXVIIème Congrès-Assemblée Plénière (Comité Benthos). C. I. E. S. M.

BOUDOURESQUE, C.F., N. NEDELEC, and S.A. SHEPHERD. 1981. The decline of a population of the sea urchin Paracentrotus lividus in the Bay of Port-Cros (Var, France). Rapp. Comm. int. Mer Medit. 27, 233-244.

AZZOLINA, J-F., C-F. BOUDOURESQUE, and H. NEDELEC. 1983. Dynamique des populations de Paracentrotus lividus (Lmk.) (Echinidae) dans la Baie de Port-Cros (Var, France). Symbioses. 15, 212-213.

MAES, P. 1983. Etude biopathologique des lésions tégumentaires chez les oursins réguliers littoraux. Symbioses. 15, 237-238.

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DIADEMA ANTILLARUM MASS MORTALITY IN THE CARIBBEAN

Mass mortalities of Diadema antillarum were first observed at Galeta Point, Panama in mid-January 1983. Subsequent mortalities were subsequently reported throughout the Caribbean (Barbados, Jamaica, Cayman Islands, Costa Rica, Columbia, the Bahamas, the Florida Keys); by February 1984, all known localities had suffered population reductions ranging from 95 to 100%. The causative agent seemed to spread with major surface currents, but some outbreaks, such as the one in Barbados in late September 1983, do not fit this pattern. Infections only occurred once in each locality, and were limited to Diadema antillarum; no other species was affected. Because of the rapidity with which each population was decimated, and because of the difficulty of finding uninfected individuals, it proved impossible to identify the infectious agent.

Bak, R.P.M., M.J.E. Carpay, E.D. de Ruyter van Steveninck (1984).

Densities of the sea urchin Diadema antillarum before and after mass mortalities on the coral reefs of Curacao. Mar. Ecol. Prog. Ser. 17: 105-108.

T.P. Hughes, B.D. Keller, J.B.C. Jackson, M.J. Boyle (in press). Mass mortality of the echinoid Diadema antillarum Philippi in Jamaica. Bull. Mar. Sci.

Lessios, H.A., P.W. Glynn, D.R. Robertson (1983). Mass mortalities of coral reef organisms. Science, 222: 715

Lessios, H.A., D.R. Robertson, J.D. Cubit, (in press) Spread of Diadema mass mortality through the Caribbean. Science.

H.A. Lessios
Smithsonian Tropical Research Institute
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Disease-related mortality of the asteroid Heliaster kbulinjii

Dungan, M.L., T.E. Miller, & D.A. Thompson. 1982. Catastrophic decline of a top carnivore in the Gulf of California rocky intertidal zone. Science. 216, 989-991.

ECHINODERM DISEASE IN NORTH SAN DIEGO COUNTY, CALIFORNIA

Beginning in 1978, diseased asteroids, holothuroids, and echinoids have been noted at a number of shallow subtidal sites in the southern California Bight. The disease was most pronounced in the asteroid, Patiria miniata. Since 1980, we have noted a degenerative disease in 7 species of asteroids (Patiria miniata, Pisaster giganteus, Dermasterias imbricata, Astrotmetis sertulifera, Henricia leviuscula, Astropecten armatus, and Linckia columbiae), and the holothuroid, Parastichopus parvimensis, in three kelp beds in northern San Diego county, California ($33^{\circ}22.5'N$; $117^{\circ}32.5'W$). The initial symptoms of the disease are small, white epithelial lesions which often first occur on the aboral surfaces of the holothuroids. In as little as three days from the onset of these symptoms, the lesions can enlarge to encompass the entire body, and result in complete disintegration of the individual. The disease has been most marked in populations of Patiria miniata, and has fluctuated in severity within and between years. Since 1980, the frequency of the disease has been correlated with water temperature, being highest in Fall and lowest in Winter. The most severe outbreak of disease occurred in the Fall of 1983, when the frequency of diseased stars in the population was 60%. This outbreak coincided with the unusually warm water associated with the El Nino conditions then prevailing in the Southern California Bight, and reduced the population by half. While these field observations suggest a causal relationship between the disease and temperature, field and laboratory experiments indicate that the relationship is indirect. Highly elevated temperature ($22^{\circ}C$) has no effect on healthy individuals, but greatly accelerates the disintegration of those stars exhibiting initial symptoms. Field experiments indicate that for Patiria miniata, cannibalism of diseased by healthy individuals is a major mechanism spreading the disease.

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Los Angeles, California

Disease-related mortality of Strongylocentrotus in California

Pearse, J.S., M.E. Clark, D.L. Leighton, C.T. Mitchell, & W.J. North. 1970. Marine waste-disposal and sea urchin ecology. In: Kelp habitat improvement project, Ann. Rept. 1969-1970. Calif. Inst. Tech., Pasadena. Appendix 1-87.

Johnson, P.T. 1971. Studies on diseased sea urchins from Point Loma. Kelp habitat improvement project, Ann. Rept. 1970-1971. Calif. Inst. Tech., Pasadena. 82-90.

Pearse, J.S., D.P. Costa, M.B. Yellin, & C.R. Aegian. 1977. Localized mass mortality of red sea urchins, Strongylocentrotus franciscanus, near Santa Cruz, California. Fish. Bull. U.S. 75, 645-648.

Pearse, J.S., & A.J. Hines. 1979. Expansion of a central California kelp forest following the mass mortality of sea urchins. Mar. Biol. 51, 83-91.

MASS MORTALITIES OF ECHINOIDS (STRONGYLOCENTROTUS DROEBACHIENSIS)
OFF NOVA SCOTIA, CANADA

Mass mortalities of Strongylocentrotus droebachiensis have occurred along the Atlantic Coast of Nova Scotia between 1980 and 1983. Mortality has been virtually complete (>99%) over an area spanning ~ 400 km of coastline and to a depth of at least 15 m; partial mortalities have occurred over another ~ 150 km. The estimated loss of biomass has been 240,000 tons fresh weight.

These mass mortalities of echinoids are attributed to recurrent outbreaks of disease. Temperature appears to be important in triggering these outbreaks and mediating the degree of mortality. Mass mortalities occur in late summer or fall during the period of peak sea water temperatures. The spread and progression of the disease is most rapid at this time. As temperature drops in early winter, the disease is arrested and affected echinoids may recover. Echinoids in permanently cold waters below ~ 25 m appear to be unaffected by the disease. Laboratory studies have shown a critical temperature threshold at 10-12°C for transmission and/or progression of the disease; recovery occurs at temperatures <8°C. Long-term temperature records indicate that mass mortalities of S. droebachiensis in 1980-83 were associated with unusually warm summer/fall seawater temperatures. The extent of echinoid mortality each year was directly related to the magnitude and duration of the period of peak seawater temperatures.

The disease of S. droebachiensis is characterized by a progressive breakdown of muscle tissue, particularly of the body wall and water vascular system. Diseased echinoids become immobilized and unable to feed or adhere to the substratum. Many fall prey to scavengers or are washed ashore. At peak temperatures (16-18°C) mortality occurs within 8-10 days after exposure to the disease. The disease appears to be highly species-specific: morbidity/mortality has not been observed in co-occurring species, including the echinoid Echinarachnius parma.

An amoeba (Paramoeba sp.) found in tissues of diseased (but not healthy) S. droebachiensis may be the pathogenic agent. In the laboratory, the disease has been transmitted by exposing echinoids to sea water flowing past diseased individuals or by intracoelomic injection of amoebae that have been isolated in culture.

Mass mortalities of S. droebachiensis have enabled the extensive colonization of the rocky subtidal zone by fleshy macroalgae. Kelp beds have regenerated in areas where they were destructively grazed by echinoids over a decade before. These events indicate the importance of disease in regulating echinoid abundance and thereby the structure and dynamics of the subtidal system off Nova Scotia.

Miller, R.J., and A.G. Colodey. 1983. Widespread mass mortalities of the green sea urchin in Nova Scotia, Canada. *Mar. Biol.* 73, 263-267.

Scheibling, R.E. 1984. Echinoids, epizootics and ecological stability in the rocky subtidal off Nova Scotia, Canada. *Helgolander Meeresunters.* (in press)

Scheibling, R.E., and R.L. Stephenson. 1984. Mass mortality of Strongylocentrotus droebachiensis (Echinodermata: Echinoidea) off Nova Scotia Canada. *Mar. Biol.* 78, 153-164.

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Fixation of echinoderm tissues for histopathology

Several recent studies have documented mass mortalities in echinoderms with major ecological effects, but often the causative agent(s) has not been investigated. Well-fixed tissue samples can give considerable information about the possible causes of mortality and, since relatively little is known about disease in the marine environment, any reference material that can be preserved is valuable.

Many fixatives are available for light microscopy (e.g., Bouin's, Helly's, Zenker, Susa) and all are suitable for echinoderms. However, one of the simplest is 4% formaldehyde - 1% glutaraldehyde:

40% formaldehyde solution 10 ml
25% glutaraldehyde solution 4 ml (or 2 ml of 50%)
filtered 70% (approx.) seawater to 100 ml

Fix a wide range of tissues from fresh (not dead) animals, preferably 5-10 specimens from each stage of disease (early, late, intermediate if recognisable) plus healthy animals for comparison. The whole animal, if small, can be cut into several pieces and fixed. For large animals, sample everything - gut (all regions), gonad, body wall and water vascular system, axial gland, lantern/peristomium, etc. Of course, sample any obvious lesions, as these are the likeliest areas for infection. Fix thin pieces of tissue (< 3 mm thick) overnight or longer at room temperature. Tissues can be stored or shipped in this fixative or in 4% formalin. The fixative is suitable for both light and electron microscopy.

We would welcome any fixed tissues of diseased echinoderms for histopathological analysis. Please feel free to contact us for further information.

Gwyneth M. Jones and Robert E. Scheibling
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B3H 4J1

Natural Parthenogenesis in Echinoderms

Parthenogenesis of echinoderm eggs in the laboratory is well known. Although natural parthenogenesis in the field has been postulated in the past, M. Yamaguchi (Dept. of Marine Science, Univ. of the Ryukyus Senharu, Nishihara, Okinawa 903-01 Japan) and J.S. Lucas (School of Biological Sciences, James Cook Univ. of North Queensland, Townsville, Qld, 4811, Australia) have pointed out that there has been no rigorous demonstration that functional parthenogenesis occurs in echinoderms *in situ*. Yamaguchi and Lucas have documented the occurrence of populations of the small coral-reef asteroid Ophidiaster granifer in the Indo-Pacific which consists of females only (Marine Biology, in press). They have proposed that this is another example of alternate modes of reproduction which functions in the same way as other forms of asexual reproduction (fission and autotomy).

W.B. Gladfelter (West Indies Laboratory, P.O. Annex No. 4010, St. Croix, USVI 00820, U.S.A.) reported that embryos developed from eggs spawned by females isolated in aquaria from males (General ecology of the cassiduloid urchin Cassidulus caribbearum. Marine Biology. 47, 149-160, 1978). Gladfelter suggested that parthenogenesis might have occurred, but pointed out that internal fertilization could not be excluded. Although males were smaller than females, Gladfelter found no direct evidence for protandry.

R.R. Strathmann, M.F. Strathmann (Friday Harbor Laboratories, Friday Harbor, Washington 98250, U.S.A.), and R.H. Emson (King's College, London WC2R 2LS, England) have reported development within the ovary of the simultaneously hermaphroditic asteroid Asterina phylactica even to metamorphosing larvae (American Naturalist, 123, 796-818. 1984). They suggested that self-fertilization was a more likely explanation than parthenogenesis in this case. They found that few of the eggs of the protandric Asterina gibbosa developed when spawned in isolation. Those eggs which did develop were from four small, presumed females. Those eggs which did not develop were from nine large individuals. They concluded that individuals in transition from male to female can have self-fertilization.

R.P.M. Bak, M.J.E. Carpey, E.D. de Ruyter van Stevenick (Caribbean Marine Biological Institute, Piscaderabaai, Curacao, Netherlands Antilles) have reported numerous blastulae in the gonads of two individuals of Diadema antillarum (Densities of the sea urchin Diadema antillarum before and after mass mortalities on the coral reefs at Curacao. Marine Biology. 17, 105-108. 1984). They suggested that parthenogenesis might be important in repopulation.

Papers presented at the 1983 annual meeting of the American Society of Zoologists, Philadelphia, 27-30 December. Abstracts published in the American Zoologist, 23 (4), 1983.

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CREED, E.L. AND B.C. COULL. SAND DOLLAR AND SEA PANSY EFFECT ON MEIOFAUNA ABUNDANCE.

Papers presented at the 3e Séminaire International sur les Echinodermes. Orléans, 21-23 septembre 1983. Abstracts published in Symbioses, 14, 1983.

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Papers presented at the 48th annual meeting of the Florida Academy of Sciences, Boca Raton, 29-31 March 1984. Abstracts published in Florida Scientist (supplement 1), 1984.

WATTS, S.A., L. WEAKLAND, J. LAWRENCE. THE EFFECTS OF TEMPERATURE ON THE ACTIVITY AND KINETICS OF PYRUVATE KINASE IN THE PYLORIC CAECA OF LUIDIA CLATHRATA. p. 16.

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ESTABROOKS, W.A., R.L. TURNER. STRUCTURE OF THE GONAD AND RELEASE OF GAMETES OF THE COELOMIC BROODING SEA CUCUMBER SYNAPTULA HYDRIFORMIS.

Echinoderm papers presented at the 1984 Benthic Ecology Meeting, Goucher College, Baltimore.

Byrne, M. The natural incidence of evisceration in the dendrochirote holothurian Eupentacta quinquesemita (Selenka).

Briggs, K.B. and M.D. Richardson. The abyssal megabenthic fauna of the Venezuela Basin, Caribbean Sea.

Carpenter, R.C. Effect of herbivore grazing on coral reef algal communities: Biomass and productivity.

Dixon, J. and S. Schroeter. Affects of temperature and cannibalism on the spread of starfish disease in a southern California kelp bed.

Harms, C.A. and R.B. Aronson. Behavioral ecology of a Caribbean brittlestar.

Hay, M.E. and P.R. Taylor. Competition between herbivorous fish and urchins on Caribbean reefs.

Kaplan, S. Metridium senile inhibits sea star predation.

Lessios, H.A. Mass mortalities of Diadema antillarum.

Levitin, D.R. Density dependent size plasticity and negative growth in Diadema antillarum (Philippi).

Morrison, D. Mass mortality of Diadema antillarum on a Jamaican coral reef: effect on the algal community.

Reidenauer, J.A. An infaunal community regulated by sand dollar burrowing.

Robbins, R.E. Functional morphology of the arms of Ophiotrix angulata (Say) and Ophioderma brevispinum (Say) (Echinodermata:Ophiuroida).

Schroeter, S. and J. Dixon. Sea urchins, kelp, and commercial urchin harvesting: Differential effects of sea urchin grazing and commercial harvesting in dispersed and aggregated subpopulations.

Slocum, C.J. When urchins die: the rise and change of a benthic marine plant community.

REQUESTS

Laurie Hammond (South Pacific Commission, Post Box D5, Noumea Cedex, New Caledonia) desires information on holothuroids associated with sponges.

Judith Winston (Department of Invertebrates, American Museum of Natural History, Central Park West at 79th Street, New York, New York 10024) is preparing a biography of Libbie Hyman. She seeks material which could be used in the biography.

Mary Bai (Marine Biological Station, Zoological Survey of India, 12, Leithcastle Street, Madras 28, India). requests reprints of papers concerning echinoderm respiration.

BOOKS

Dartnall, A. 1980. Tasmanian Echinoderms. Fauna of Tasmania Handbook no. 3. Fauna of Tasmania Committee, University of Tasmania, 84 pp.

Dollfus, R.P. and J. Roman. 1981. Les échinides de la Mer Rouge. Monographie zoologique et paléontologique. Comité des travaux historiques et scientifiques. Mem. Sec. Sci. 9. 145 pp. 41 plates.

Smith, A.B. 1984. Echinoid palaeobiology. George Allen & Unwin, London.

Echinoderms in Literature

"Not a sound, not a living creature. Here lay a hollow starfish, there the shell of a hermit crab. Near by a fragment of a fisherman's net, or a broken teacup, or the splinter of a broken mast. It was the world of the corroded, the world of the dead." Frederic Prokosch. 1943. The Conspirators.

"Once a fortnight or so I was taken to visit my mother in Weinsiedl. I was led down a long green corridor to her small, stuffy room where starfish and sea-horses danced about on the wallpaper". Frederic Prokosch. A ballad of love.

"Their room had palm trees painted on the walls and the handles on the faucets were modeled on starfish"....."He clung to the wheel like a starfish while he carved a widening spiral of foam around the larger load...". Thomas Palmer. 1983. The Transfer.

"Selwyn yawned, and spread himself like a starfish". Liza Cody. 1981. Dupe.

"A few yards of shallows; Bond swam as near the water's edge as he could to avoid the sea-urchins. He pulled himself upright; he was ashore. Robert Markham. 1958. Colonel Sun.

"He was asleep, but even in repose his face was as subtly distored and burnished as that of a giant crown of thorns starfish predator." Richard Condon. Prizzi's Honor. 1982.

Canada

Mladenov, P.V. 1976. Reproduction and larval development in ophiuroids (Echinodermata) of Barbados, West Indies. McGill Univ.

Himmelman, J.H. 1969. Some aspects of the ecology of *Strongylocentrotus droebachiensis* in eastern Newfoundland. Memorial Univ. of Newfoundland.

Goyette, D.E. 1967. Light and electron microscope study of the aboral nervous system and neurosecretion in the crinoid *florometra serratissima*. Univ. of Alberta.

Bray, R.D. 1975. Community structure of shallow-water Ophiuroidea of Barbados. McGill Univ.

Emerson, I.P. Aspects of the biology and local distribution of sea stars inhabiting a sloped, rocky bottom in Logy Bay, Newfoundland. Memorial Univ. of Newfoundland.

Mooi, R. 1983. Morphology, diversity and function of non-respiratory podia of clypeasteroids (Echinodermata, Echinoidea). Univ. of Toronto.

Brasil (contributed by S. Stancyk)

Almeida, A.M.M.B. de. Efeito da salinidade e da temperatura no desenvolvimento e sobrevivência de Ourigo do Mar (Echinodermata, Echinoidea. 1979. Univ. Sao Paulo.

Altieri, S.M.de L. 1979. Repostas a drogas e efeitos de diluição salinaria e de remoção de cations nas repostas a acetilcolina do músculo longitudinal de *Ludwigothuria grisea* (Selenka, 1867) (Echinodermata, Holothuroidea). Univ. Sao Paulo.

Altimari, M.I.S. 1969. Substancias toxicas produzidas por equinodermas. Univ. Sao Paulo.

Bianconcini, M.d.S.C. 1978. Atividades de enzimas das vias glicolitica e do fosfogliconato de músculo da lanterna de tres Ouricos do Mar, *Arbacia lixula* (Linn., 1758), *Echinometra lucunter* (Linn., 1758) et *Lytechinus variegatus* (Lamarack, 1816). Univ. Sao Paulo.

Gomes, M.d.G.S. 1973. Fisiologia do ourico do mar - *Echinometra lucunter* (L. 1758) - Echinodermata, Echinoidea: consumo de oxigenio e resistencia as variacoes de salinidade.

Camponez, M.d.S. 1973. Metabolismo e enzimas respiratorias dos músculos da lanterna do ourico do mar *Echinometra lucunter*.

Dolder, M.A.H. 1970. Ultraestrutura do músculo dos pés ambulacarios de Echinodermes: *Asterina stellifera moebius*, 1859 (Asteroidea) e *Pentacta peterseni* Ancona Lopez, 1965.

Silva, M.M.D. 1979. Influencia da salinidade na resistencia e nas correntes ciliares de *Ophionereis reticulata* (Say, 1825) e *Ophiothrix angulata* (Say, 1825). Univ. Sao Paulo.

Theses (cont.)

Ireland

La Touche, R.W. 1976. The feeding behaviour and food of the shallow-water crinoid *Antedon bifida* (Pennant) and some aspects of its ecology. Univ. of Dublin.

Republic of South Africa

Greenwood, P.J. 1974. Population dynamics and ecological energetics of *Parechinus angulosus* at Robben Island and False Bay, South Africa. Univ. of Cape Town.

Gordon-Thompson, C. 1982. A study of the early blastocoel formation in the sea urchin, *Echinometra mathaei* (De Blainville). Univ. of Witwatersrand.

Puerto Rico (contributed by Bertha Cutress)

Carrera, C.J. 1974. The shallow water amphiurid brittle stars (Ophiuroidea: Echinodermata) of Puerto Rico. Univ. Puerto Rico

Craft, L.L. 1975. Aspects of the biology of the crab *Percnon gibbesi* and its commensal association with the sea urchin *Diadema antillarum*. Univ. Puerto Rico.

Littrell, J.A. 1977. Field and laboratory studies of the pedicellariae of *Lytechinus variegatus* (Lamarck, 1816) (Echinodermata: Echinoidea.) Univ. of Puerto Rico.

Bissel, J. 1978. An investigation of the feeding habits and population biology of the sea-star *Astropecten duplicatus* (Gray). Univ. Puerto Rico.

Wolfe, T.J. 1978. Aspects of the biology of *Astrophyton muricatum* (Lamarck) (Ophiuroidea: Gorgonocephalidae). Univ. Puerto Rico.

Rivera, J.A. 1979. Aspects of the biology of *Lytechinus variegatus* (Lamarck, 1816) at Jobos Bay, Puerto Rico (Echinoidea: Toxopneustidae). Univ. of Puerto Rico.

Guam (contributed by Charles Birkeland)

Doty, J.E. 1976. Fission in *Holothuria atra* and holothurian population growth. Univ. of Guam.

Strong, R.D. 1975. Distribution, morphology and thermal stress studies on two forms of *Linckia* (Asteroidea) on Guam. (Univ. of Guam.)

theses
Guam (cont.)

Branch, J.B. 1969. Observations on the ecology and behavior of Guam pearlfishes (Carapidae). Univ. of Guam. (Culcita and five species of holothuroids).

Rideout, R.S. 1975. Asexual reproduction as a means of population maintenance of the coral reef asteroid *Linckia multifora* (Lamarck). Univ. of Guam.

Marsh, J.A. 1972. Behavioral aspects of photosensitivity and spectral sensitivity in *Acanthaster planci* (L.). Univ. of Guam.

Randall, R.H. 1971. Tanguisson-Tumon, Guam, reef corals before, during and after the crown-of-thorns starfish (*Acanthaster planci*) predation. Univ. of Guam.

Best, B.R. 1981. Effects of chlorine-induced oxidants on selected inshore organisms around Guam.

New Zealand

Walker, M. 1977. Local variation in the population biology of *Evechinus chloroticus* (Valenciennes). Univ. of Auckland.

Andrew, N.L. 1982. An experimental study of the distribution and abundance of *Evechinus chloroticus* (Echinoidea: Echinometridae). Univ. of Auckland.

Don, G.L. 1975. The effect of grazing by *Evechinus chloroticus* (Val.) on populations of *Ecklonia radiata* (Ag.). Univ. of Auckland.

Switzerland (contributed by Peter Jost) (Diplomarbeit)

Ribi, G. 1973. Groessenverteilung und Regenerationshäufigkeit der Seesternart *Astropecten aranciacus* an der Nordküste von Sardinien, Mittelmeer. Univ. of Zurich.

Ferlin, V. 1974. Aktivitätsperiodik von *Astropecten aranciacus* Linne an der Nordküste von Sardinien zu verschiedenen Jahreszeiten. Univ. of Zurich.

Kahr, J. 1974. Futtersuchstrategie und Aktivität zweier konkurrierender Seesternarten. Univ. Zurich.

Pabst, B. 1974. Das Dislokationsmuster bei einer Population der Seesternart *Astropecten jonstoni*. Univ. of Zurich.

Vicentini, H. 1974. Versetzungsversuch mit *Astropecten jonstoni*. Univ. Zurich.

Forster, R. 1975. Die Aktivitätsperiodik des Seesterns *Astropecten aranciacus* Linne unter verschiedenen Lichtbedingungen. Univ. of Zurich.

Karrer, C. 1978. An investigation on the effect of food density on the movement of the sea stars of the species *Astropecten bispinosus*. Univ. of Zurich.

theses
Switzerland (cont.)

Ochsner, P. 1978. Diäten und Effectivitäten bei der Nahrungssuche der koexistierenden Seesternarten Astropecten aranciacus und Astropecten bispinosus an der Südostküste von Sardinien, Mittelmeer. Univ. Zurich.

Schaerer, R. 1978. Bewegungsaktivität und Beuteaufnahme von Astropecten bispinosus in Abhängigkeit vom Nahrungsangebot. Univ. of Zurich.

Jost, P. 1979. Entstehung eines Aggregats von Seesternen der Gattung Astropecten nach. Univ. of Zurich.

Rein, K. 1980. The importance of *Zostera* patches for the population dynamics of Astropecten aranciacus and bispinosus. Univ. of Zurich.

Rickenbacher, U. 1980. Reaktion von Astropecten aranciacus auf Häufigkeit und Dichte verschieden großer Beutetiere. Univ. Zurich.

Tschudi, L. 1980. Individuelle Diäten bei der Seesternart Astropecten aranciacus. Univ. Zurich.

Riederer, H. 1981. Frequenze dei rientri in aggregati alimentari artificiali precedentemente visitati da Astropecten aranciacus. Univ. Zurich.

Thalmann, E. 1981. Laufmuster von Astropecten aranciacus innerhalb und außerhalb von künstlichen Beuteaggregaten. Univ. Zurich.

United States

Turner, V.G. 1966. The reproductive biology of selected echinoderms from Cape Cod, Massachusetts. Univ. of California, Los Angeles.

Green, J.D. 1976. Seasonal reproductive biology of *Leptosynapta tenuis*. Univ. of North Carolina.

Wilson, M. 1982. The synergistic effects of calcium and pH on the stimulation of protein synthesis following fertilization of sea urchin eggs. California State Univ., Fullerton.

Campbell, D.B. 1978. Comparative skeletal morphology of two forms of *Echinaster* (Echinodermata: Asteroidea) from the west coast of Florida, and its bearing on a systematic revision of the genus. Florida Institute of Technology.

Carney, R.S. 1971. Some aspects of the biology of *Mesothuria lactea* Theel, a common bathyal holothuroid from the Gulf of Mexico. Texas A&M Univ.

Norcross, C.S. 1982. The reduction of sea urchin populations in kelp beds using quicklime. California State Univ., Long Beach.

Creed, E. 1983. The effects of sand dollars and sea pansies on meiofaunal abundance. University of South Carolina.

Cunningham, C.J.B. 1977. Aspects of the reproductive biology of intertidal amphipods of Monterey Bay. San Jose State University.

Davies, T.J. 1983. The influence of the epibionts *Codium fragile* and *Crepidula fornicata* on the predation of the bay scallop *Argopecten irradians* by the sea star *Asterias forbesi* and the oyster drill *Urosalpinx cinerea*. Adelphi Univ.

theses

United States (cont.)

Davis, H.S. 1971. The gonad walls of Echinodermata: A comparative study based on electron microscopy . Univ. of California, San Diego.

Pfeiffer, S.W. 1982. The reproductive system of the ophiuroid *Ophioplacus esmarki*, with observations on *Ophionereis annulata*, *Ophiothrix nudis*, *Ophioderma panamensis*, *Ophiopteris papillosa*, and *Axiognathus squamata*. San Diego State Univ.

Arnn, B.L. 1963. Feeding rates of the sea star, *Asterias forbesi* (Desor) at reduced salinities. Duke University.

Smith, L.A. 1983. Glycolytic activity in the pyloric caeca of *Luidia clathrata* (Say) (Echinodermata: Asteroidea). Univ. of South Florida.

Culver, S. 1961. Observations on the biology of a sand dollar, *Mellita quinquiesperforata*. Duke University.

Marsh, A.G. 1983. The effects of sodium, potassium, calcium, and magnesium on the activity of citrate synthase (EC 4.1.3.7) in *Luidia clathrata* (Say) (Echinodermata: Asteroidea). Univ. of South Florida.

France (Doctorat de 3e cycle, doctorat de spécialité)

(with assistance from Patrick Arnaud, Lucienne Fenaux, Alain Guille, Bernard Thomassin)

Bitar, G. 1980. Etude de l'impact de la pollution par un émissaire urbain (collecteur de Cortious) sur les peuplements infralittoraux de substrat dur de la côte sud de Marseille. Univ. Aix-Marseille. (ophiuroids, asteroids, echinoids).

Bouchon, C. 1978. Etude quantitative des peuplements à base de scléractiniaires d'un récif frangeant de l'Île de la Réunion (Océan Indien). Univ. Aix-Marseille II. (echinoids, holothuroids).

Coiffait, B.M. 1974. Contribution à l'étude d'*Hemicidaris crenularis* (Lmk.) des calcaires à chailles de Druyes (Yonne). Univ. Paris-Sud. (echinoids)

Bourcier, M. 1968. Etude du benthos du plateau continental de la baie de Cassis. Univ. Aix-Marseille. (holothuroids, asteroids, echinoids, ophiuroids).

Allain, J.-Y. 1972. Répartition, structure et évolution des populations d'oursins à la pêche Bretagne-nord. Univ. Rennes

Amouroux, J.-M. 1972. Données sur la structure et l'instabilité des peuplements infralittoraux de la côte du Roussillon. Univ. Paris VI. (ophiuroids, asteroids, holothuroids).

Arnaud, P. 1964. Echinodermes littoraux de Terre Adélie (Holothuries exceptées) et pélécypodes commensaux d'échinides antarctiques. Univ. Marseille.

Christen, R. 1979. Les modifications de perméabilité de la membrane de l'oeuf d'oursin *Paracentrotus lividus* après fécondations en activation artificielle. Univ. Nice.

Magniez, P. 1980. Le cycle sexuel d'*Abatus cordatus* (Echinoidea: Spatangoida): modalités d'incubation et évolution histologique et biochimique des gonades. Univ. Paris VI.

Massé, H. 1962. Cartographie bionomique de quelques fonds meubles de la partie sud orientale du golfe de Marseille. Univ. Aix-Marseille II. (asteroids, ophiuroids, holothuroids, echinoids).

Menesquen, A. 1980. La macrofaune benthique de la baie de Concarneau: peuplements, dynamique de populations prédatation exercée par les poissons. Univ. Brest. (ophiuroids, holothuroids).

Naim, O. 1980. Etude quantitative et qualitative de la faune mobile associée aux algues du lagon de Tiahura (Île de Moorea, Polynésie française). Univ. Paris VI. (holothuroids, asteroids, ophiuroids).

Nedelec, H. 1982. Ethologie alimentaire de *Paracentrotus lividus* dans la baie de Galeria (Corse) et son impact sur les peuplements phyto-benthiques. Univ. Aix-Marseille II.

Ollivier, M.-T. 1968. Etude des peuplements de *Zostera*, *Lanice*, et *Sabelles* de la région dinardaise. Univ. Aix-Marseille. (Ophiuroids, holothuroids)

Poizat, C. 1966. Le débouché des calanques entre Marseille et la Ciotat: étude des peuplements et des sédiments. Univ. Aix-Marseille. (crinoids, asteroids, ephiuroids, echinoids, holothuroids).

Poncet, S. 1963. Caractérisation et dosage de l'acide désoxyribonucléique dans les oocytes vierges d'*Arbacia lixula* (Echinoderme). Univ. Lyon.

Ribes, S. 1978. La macrofaune vagile associée à la partie vivante des scleractiniaires d'un récif frangeant de l'Île de la Réunion (Océan Indian). Univ. Aix-Marseille II. (echinoids, asteroids, ophiuroids).

Sentz, E. 1962. Etude écologique sur les relations entre les larves planktotrophiques et les jeunes stades fixés, dans la Rade de Villefranche-sur-Mer. Univ. Paris. (echinoids)

Solis, V. 1975. Etude des peuplements benthiques des fonds de décan-tations des parages de Marseille. Univ. Aix-Marseille. (asteroids, ophiuroids, echinoids, holothuroids).

Tahvildari, B. 1976. Contribution à l'étude dynamique des variations qualitatives et quantitatives du peuplement benthique d'un fond soumis à des alternances sédimentaires. Univ. Aix-Marseille. (ophiuroids, asteroids, echinoids, holothuroids).

theses
France (cont.)

Gruet, Y. 1969. Morphologie, croissance et faune associée de "récifs" d'Hermelles (*Sabellaria alveolata* (Linné) à la Bernerie-en-Retz (Loire-Atlantique). Univ. Aix-Marseille. (ophiuroids, asteroids, echinoids).

Guille, A. 1963. Contribution à l'étude de la systématique et de l'écologie d'*Ophiothrix quinquemaculata* D. Ch. Univ. Paris.

Guillou, J. 1980. Les peuplements de sables fins du littoral nord-Gascogne. Univ. Brest. (ophiuroids, echinoids).

Harmelin, J.G. 1964. Etudes des "mattes" d'herbiers de *Posidonia oceanica* Delile. Univ. Aix-Marseille. (ophiuroids, asteroids, holothuroids, echinoids).

Hily, C. 1976. Ecologie benthique des Pertuis charentais. Univ. Bretagne occidentale. (ophiuroids, echinoids).

Jacquotte, R. 1962. Etude des fonds de maerl de Méditerranée. Univ. Aix-Marseille. (holothuroids, echinoids, asteroids, ophiuroids).

Jorajuria-Olivari, A. 1980. Peuplements benthiques de substrat meuble dans le couloir d'écoulement des eaux usées de la ville de Marseille. Relations polluants-peuplements. Univ. Aix-Marseille II. (holothuroids, echinoids, asteroids, echinoids).

Lackhem, H. 1982. Les échinoides du Messinien du bassin de Melilla (Maroc septentrional) Etude systématique et paléoenvironnementale. Univ. Paris-Sud.

LeFur, C. 1972. Etude quantitative et dynamique d'un peuplement intertidal d'une plage tropicale (Sud-Ouest de Madagascar). Univ. Aix-Marseille. (asteroids, holothuroids).

LeGall, J.-Y. 1969. Etude de l'endofaune des pelouses de Zosteracées superficielles de la baie de Castiglione (Côtes d'Algérie). Univ. Aix-Marseille. (ophiuroids, asteroids, holothuroids, echinoids).

L'Herroux, M. 1969. Peuplements des sables fins en baie de Saint-Brieuc (Manche). Univ. Aix-Marseille II. (ophiuroids, echinoids, holothuroids).

LeMenn. 1970. Les Crinoides du Siegénien supérieur de la rade de Brest (Finistère). Univ. Brest.

theses
France (cont.)

Dauvin, J.-C. 1979. Recherches quantitatives sur le peuplement des sables fins de la Pierre Noire, baie de Morlaix, et sur sa perturbation par les hydrocarbures de l'"Amoco Cadiz". Univ. Paris VI. (ophiuroids, echinoids, holothuroids).

David, B. 1979. Les Toxaster (Echinides, Spatangoides) de l'Eocrétacé subalpin de Castellane. Univ. Franche-Comté .

de Gaillande, D. 1968. Monographie des peuplements benthiques d'une calanque des côtes de Provence: Port-Miou. Univ. Aix-Marseille. (crinoids, asteroids, ophiuroids, echinoids, holothuroids).

Desrosiers, G. 1977. Contribution à l'étude de l'influence de la pollution sur les peuplements de substrat dur dans le golfe de Fos. Univ. Aix-Marseille II. (echinoids).

Dô, F. 1963. Etude cinétique du calcium dans l'oeuf d'*Arbacia lixula* (Echinoderme) vierge et fécondé . Univ. Lyon.

Duchêne, J.-C. 1976. Recherches sur les fonds meubles circalittoraux au large de Banyuls-sur-Mer. Univ. Paris. (ophiuroids, holothuroids, echinoids).

Emdadi, M. 1979. Impact des récents travaux d'aménagements sur le macrobenthos des sables fins de la baie du Prado. Univ. Aix-Marseille. (ophiuroids, echinoids).

Eugène, C. 1979. Etude de l'épifaune des herbiers de *Posidonia oceanica* (L.) du littoral provençal. Univ. Aix-Marseille (crinoids, asteroids, echinoids, holothuroids, ophiuroids).

Fouray, M. 1980. La variabilité chez les *Micraster* (Echinoidea Spatangoida) dans le Turonien-Coniacien de Picardie occidentale (France). Univ. Paris VI.

Galenon, P.L. 1977. Macrofaune vagile et cryptique des levées détritiques sur les récifs coralliens (région de Tuléar, Madagascar). Univ. Aix-Marseille (ophiuroids, asteroids, echinoids, holothuroids).

Gentil, F. 1976. Distribution des peuplements benthiques en baie de Seine. Univ. Paris. (crinoids, ophiuroids, asteroids, holothuroids, echinoids).

Goudy-Perrière, F. 1972. *Amphiurophilus amphiurae* (Hérouard), Crustacé copépode endoparasite de l'ophiure *Amphipholis squamata* Della Chiaje (Echinoderme): étude du développement et données biologiques. Univ. Paris VI.

Theses
France (cont.)

Thomassin, B.A. 1968. Peuplements de deux biotopes de sables coralliens sur le grand recif de Tuléar, sud-ouest de Madagascar. Univ. Aix-Marseille. (holothuroids, echinoids, ophiuroids, asteroids)

True, M. 1966. Etude quantitative de quatre peuplements sciaphiles sur substrat rocheux dans la région marseillaise. Univ. Aix-Marseille. (crinoids, asteroids, ophiuroids, holothuroids).

True-Schlenz, R. 1965. Données sur les peuplements des sédiments à petites phanerogames marines (*Zostera nana* Roth et *Cymodocea nodosa* Ascherson) comparés à ceux des habitats voisins dépourvus de végétation. Univ. Aix-Marseille. (ophiuroids, asteroids, echinoids, holothuroids).

Vamvakas, C.-N. E. 1969. Peuplements benthiques des vase bathyales du Sud de la mer Egée. Univ. Aix-Marseille. (holothuroids, ophiuroids).

Vasquez-Montoya, R. 1979. Peuplements des herbieres de *Thalassia testudinum* et *Halodule* sp. de la côte Caraïbe de Panama. Univ. Aix-Marseille. (echinoids, holothuroids, ophiuroids)

Vergonzanne, G. 1977. Etude sur les mollusques et les échinodermes recifaux des Iles Glorieuses (Nord-Ouest de Madagascar). Bionomie et evaluations quantitatives. Univ. Bretagne Occidentale. (crinoids, asteroids, ophiuroids, echinoids, holothuroids).

Zaghbib-Turk, D. 1975. Echinides du Crétacé de Tunisie centrale. Etude systematique, paléobiométrique et paleoecologique Univ. Paris-Sud.

Hong, J.-S. 1980. Etude faunistique d'un fond de concretionnement de type coralligene soumis à un gradient de pollution en Méditerranée nord-occidentale (Golfe de Fos). Univ. Aix-Marseille II. (ophiuroids, echinoids).

Bakalem, A. 1979. Contribution a l'étude des peuplements benthiques de la baie d'Alger. Univ. Brest. (all echinoderm classes)

Sukarno, R. 1979. Le cycle annuel de reproduction de *Psammechinus miliaris* (Gmelin) en Zélande. Univ. Paris VI.

Roubaud, P. 1964. Histologie du tube digestif d'*Ophiothrix quinquemaculata*. Univ. Paris.

Reyss, D. 1962. Contribution à l'étude du rech Lacaze-Duthiers, vallée sous-marine des côtes du Roussillon. Univ. Paris VI. (all classes).

Vidal, A. 1966. Etude des fonds rocheux circa-littoraux le long des côtes du Roussillon. Univ. Paris VI. (all classes).

Theses
France (cont.)

Monniot, F. 1961. Recherches sur les graviers à *Amphioxus* de la région de Banyuls/mer. Univ. Paris.

Mazzei, G. 1981. Tentative de caractérisation des substrats protéiques phosphorylés lors de la reprise de la méiose chez l'étoile de mer. Univ. Paris XI.

Christen, R. 1979. Les modifications de perméabilité de l'oeuf d'oursin *Paracentrotus lividus* après fécondation ou activation artificielle. Univ. Nice.

Guillou, M. 1981. Les populations d'*Asterias rubens* L. en baie de Douarnenez (Finistère). Univ. Bretagne occidentale.

Cabioch, L. 1961. Etude de la répartition des peuplements benthiques au large de Roscoff. Univ. Paris. (all classes).

Mauviel, A. 1982. La bioturbation actuelle dans le milieu abyssal de l'océan Atlantique nord. Univ. Bretagne occidentale (all classes).

The Philippines

Acosta, T.E. 1969. Studies on the littoral echinoderms of Ilocos Sur between Candon and Vigan. Univ. of Santo Tomas.

Conlu, P.V. 1960. Studies on the echinoderms of Manila Bay mostly taken by otter trawls. Univ. of Santo Tomas.

Geronimo, A.L. 1970. Eulittoral ophiuroids and holothuroids of Mariveles and vicinity. Univ. of Santo Tomas.

Mexico

Farias Sanchez, J.A. 1980. Observaciones preliminares sobre una población de los erizos comerciales *Strongylocentrotus franciscanus* (Echinodermata, Echinzoa) en Baja California, Mexico. Univ. Autonoma de Baja California.

New Guinea

Shelley, C.C. 1982. Aspects of the distribution, reproduction, growth and 'fishery' potential of holothurians (beche-de-mer) in the Papuan coastal lagoon. Univ. Papua New Guinea.

DISSERTATIONS

Australia

Franklin, S.E. 1980. The reproductive biology and some aspects of the population ecology of the holothurians *Holothuria leucospilota* (Brandt) and *Stichopus chloroticus* (Brandt). Univ. of Sydney.

Brasil (contributed by Steve Stancyk)

Altieri, S.M.d.L. 1982. Estudos fisio-farmacologicos com musculos de equinoides e holoturoides. Univ. Sao Paulo.

Dolder, M.A.H. 1973. Ultraestrutura e citoquimica des juncoes neuromusculares em équinodermes: *Asterina stellifera* Moebius, 1859 (astroidea) e *Pentacta peterseni* Ancona Lopez, 1965 (Holothuroidea). Univ. Sao Paulo.

Federal Republic of Germany

Fricke, H.W. 1968. Beiträge zur Biologie der Gorgonanhäupter *Astrophyton muricatum* und *Astroboa nuda* (Ophiuroidea, Gorgonocephalidae). Free Univ. of Berlin.

Mastaller, M. 1979. Beiträge zur faunistik und Ökologie der Mollusken und Echinodermen in den Korallenriffen bei Aqaba, Rotes Meer. Univ. Bochum (crinoids, ophiuroids, asteroids, echinoids, holothuroids).

Sweden

Lundgren, B. 1974. Aspects of sea urchin development from blastula to pluteus, with special reference to contractile elements and cell contacts. Univ. of Stockholm.

Afzelius, B. 1957. Electron microscopy on sea urchin gametes. Univ. of Uppsala.

Franzen, C. 1983. Ecology and taxonomy of Silurian crinoids from Gotland. Univ. of Uppsala.

Ireland

Costelloe, J. 1983. Aspects of the biology and ecology of epibenthic animals (Galway Bay, west coast of Ireland) with particular reference to the holothurian *Aslia lefevrei* (Barrois, 1882). National Univ. of Ireland.

Smith, T.B. 1981. Feeding and aspects of the nutritional biology of the dendrochirote holothurian *Neopentadactyla mixta* (Ostergren, 1898) and the ectoparasitic gastropod *Melanella alba* Bowdich (1822). National Univ. of Ireland.

De Burgh, M.E. 1975. Aspects of the absorption of dissolved nutrients by the spines of *Paracentrotus lividus* (Lamarck). Univ. of Dublin.

Dissertations (cont.)

New Zealand

Dix, T.G. The biology of *Evechinus chloroticus* (Val.) in different habitats. Univ. of Canterbury.

Ayeling, A.M. 1976. The role of biological disturbance in determining the organization of encrusting communities in temperate waters. Univ. of Auckland.

Switzerland (contributed by Peter Jost)

Ribi, G. 1978, Einfluss von zwei Seesternarten der Gattung *Astropecten* auf populationen ihrer Beutetiere. Univ. of Zurich.

United States

Baker, E.J. 1983. Histone messenger-RNA in sea urchin embryos: metabolism, utilization and polymorphism. Wesleyan Univ.

Bertolini, D.R. 1983. Identification of a sea urchin embryo cell adhesion molecule. Wesleyan Univ.

Brenchley, G.A. 1978. On the regulation of marine infaunal assemblages at the morphological level: a study of the interaction between sediment stabilizers, destabilizers, and their sedimentary environment. Johns Hopkins Univ.

McCarthy, R.A. 1982. Reaggregation of sea urchin embryonic cells. Dartmouth College.

Elhai, J. 1981. Arachidonic and other fatty acids: signal transmission in the fertilized sea urchin egg. State Univ. of New York, Stony Brook.

Harkey, M.A. 1982. The program of protein synthesis in the development of the echinoid primary mesenchyme. Univ. of Washington.

Kallenbach, R.J. 1981. Parthenogenesis of the sea urchin egg while subjected to a continuous and prolonged hypertonic stress: an ultrastructural analysis. Univ. of California, Berkeley.

Diehl, W.J. 1983. Patterns and Mechanisms of isosmotic intracellular regulation in *Luidia clathrata* (Say) (Echinodermata: Asteroidea) exposed to hypo- and hyperosmotic stress. Univ. of South Florida.

Klinger, T.S. 1984. Feeding of a marine generalist grazer: *Lytechinus variegatus* (Lamarck) (Echinodermata: Echinoidea). Univ. of South Florida.

McClintock, J.B. 1984. An optimization study on the feeding behavior of *Luidia clathrata* (Say) (Echinodermata: Asteroidea). Univ. of South Florida.

Davis, J.P. 1983. Net uptake of amino acids by bacteria-free echinoderm laryae and a freshwater protozoan. Univ. of California, Irvine (echinoid)

Harrold, C. 1981. Feeding ecology of the asteroid *Pisaster giganteus* in a kelp forest ecosystem: prey selection, predator-prey interactions, and energetics (California). Univ. California, Santa Cruz.

Fowler, M.L. 1972. Distribution of magnesium and strontium in the skeletons of modern regular echinoids from the United States Atlantic coast and Caribbean Sea. Indiana Univ.

Muscat, A.M. 1983. Population dynamics and the effect on the infauna of the deposit-feeding holothurian *Parastichopus parvimensis* (Clark). Univ. of Southern California.

Friest, T.J. 1983. Studies of Silurian echinoderms. Univ. of Iowa (crinozoans, blastozoans)

Davis, K.K. 1982. Spermatogenesis in the sea star *Patiria miniata* (Brandt, 1835): studies employing histology, autoradiography, and organ culture. Univ. of California, Santa Cruz.

McGwin, N.F. 1981. Localization and regulation of thymidine kinase and thymidylate kinase in sea urchin eggs. Georgetown Univ.

Anstrom, J.A. 1982. Mitosis in the sea urchin embryo: the effect of temperature on the isolated mitotic apparatus. State Univ. of New York, Buffalo.

Steneck, R.S. 1982. Adaptive trends in the ecology and evolution of crustose coralline algae (Rhodophyta, Corallinaceae). Johns Hopkins Univ. (sea urchin grazing)

Gordon, K. 1982. Utilization of histone messenger RNA during early sea urchin development. Wesleyan Univ.

Doering, P.H. 1980. Defenses of the hard clam *Mercenaria mercenaria* against predation by the sea star *Asterias forbesi*. Univ. Rhode Island

Brown, K.M. 1982. (H3) serotonin fractions and dissociated cells of blastula, gastrula, prism and pluteus sea urchin (*Arbacia punctulata*) embryos. Michigan State Univ.

Carron, C.P. 1982. Reorganization of the surface and cortical cytoplasm of the sea urchin (*Arbacia punctulata*) egg fertilization. Univ. of Iowa.

Harrold, C. 1981. Feeding ecology of the asteroid *Pisaster giganteus* in a kelp forest system: prey selection, predator-prey interaction, and energetics. Univ. of California, Santa Cruz.

Agostino, M.J. 1982. The major embryonic histone genes and related sequences of the sea urchin *Echinus esculentus*. State Univ. of New York, Buffalo.

Alexandraki, D. 1982. Organization and expression of tubulin multigene families in the sea urchin *Lytechinus pictus*. Harvard Univ.

Wade, B.D. 1982. The mechanism of sperm incorporation and an analysis of microvill filament organization in sea urchin eggs examined through the use of cytochalasin B and ammonium chloride. Louisiana State Univ.

Smith, C.R. 1983. Enrichment, disturbance, and deep-sea community structure: the significance of large organic falls to bathyal benthos in Santa Catalina basin. Univ. California, San Diego (Ophiuroids)

Campbell, C.B. 1983. Determination of the foraging strategy of *Asterias forbesi* (Echinodermata: Asteroidea). Univ. Rhode Island.

Lansman, J.B. 1982. Voltage clamp study of fertilization in the egg of a starfish. Univ. of California, Los Angeles (Mediaster)

Gaines, S.D. 1983. Diverse consumer guilds in intertidal communities of Oregon and the Republic of Panama and their effects on prey assemblages. Oregon State Univ.

Supernant, K.A. 1982. In vitro assembly and characterization of marine eggs and embryo tubulin. Univ. of Virginia. (sea urchin, starfish, sand dollar).

McCravy, A.B. Zooplankton in Wrightsville Sound. Univ. of North Carolina. (includes echinoderms)

McClosky, L.R. 1967. Community dynamics of the fauna associated with *Oculina arbuscula* Verrill (Coelenterata, Scleratinia). Duke Univ. (includes ophiuroids, holothuroids, echinoids).

Peckol, P.M. 1980. Seasonal and spatial organization and development of a Carolina continental shelf community. Duke Univ. (Lytechinus, Arbacia).

Carney, R.S. 1977. The patterns of abundance and relative abundance of benthic holothurians on Cascadia Basin and Tufts Abyssal Plain in the northeast Pacific. Oregon State Univ.

Boldt, J.P. 1983. The role of hydrogen peroxide in the block to polyspermy during sea urchin fertilization. State Univ. of New York, Buffalo.

Acevedo-Duncan, M.E. 1983. Isolation of an operationally defined sea urchin vitelline envelope with sperm receptor activity and immunological evidence for a sperm receptor polypeptide. Univ. California, Riverside.

Bruskin, A.M. 1983. A family of genes expressed in embryonic ectoderm of the sea urchin. Indian Univ.

Martin, K.A. 1983. Maternal RNP and its translation in sea urchin eggs and embryos. Univ. Virginia.

Canada

Pohle, G.W. 1982. Setal morphology and post-embryonic development of two pinnotherid crabs, *Dissodactylus crinitichelis* Moreira, 1901 and *D. primitivus*, 1917 (Brachyura: Pinnotheridae), symbiotic with echinoids. Univ. of Toronto.

Smith, A.L. 1980. The role of the Pacific sand dollar *Dendraster excentricus* in intertidal benthic community structure. Univ. of Alberta.

Kao, M.H. 1979. Some aspects of biology of sea stars *Asterias vulgaris* Verrill and *Leptasterias pilaris* (Müller and Troschel) in Newfoundland waters. Memorial Univ. of Newfoundland.

Venezuela

Weil, F.M. 1980. Papel del erizo *Diadema antillarum* Philippi en la regulation de la estructura de las comunidades coralinas. U.C.V., Caracas.

Lera, M. 1980. Reparticion de recursos entre dos estrellas de mar *Astropecten marginatus* (Gray) y *Luidia senegalensis* (Lamarck) coexistentes en aguas someras del parque Nacional de Morrocoy, Edo. Falcon, Venezuela. Univ. Simon Bolivar.

FranceDoctorats d'Etat es-Sciences naturelles

Apostolides, N.C. 1881. Anatomie et développement des Ophiures.
Univ. Paris

Arnaud, P.M. 1973. Contribution à la bionomie marine benthique des régions antarctiques et subantarctiques. Univ. Aix-Marseille. (all classes).

Bellan-Santini,D. 1967. Contribution à l'étude des peuplements infralittoraux sur substrat rocheuse. Etude qualitative et quantitative. Univ. Aix-Marseille. (asteroids, ophiuroids, echinoids).

Bourcier, M. 1976. Economie benthique d'une baie Méditerranée largement ouverte et des régions voisines en fonctions des influences des facteurs naturelles et humaines. Univ. Aix-Marseille. (larvae of ophiuroids, asteroids, echinoids, holothuroids)

Bouchet, J.-M. 1968. Etude océanographique des Chenaux du Bassin d'Arcachon. Univ. Bordeaux. (echinoids, asteroids, ophiuroids, holothuroids).

Bruslé , J. 1968. Recherches sur la sexualité d'un hermaphrodite fonctionnel d'Asterina gibbosa Pennant (Echinoderme, Astéride). Univ. Paris-Sud.

Cabioch, L.1968. Contribution à la connaissance des peuplements benthiques de la Manche occidentale. Univ. Paris VI. (asteroids, ophiuroids, echinoids)

Carpine, C. 1970. Ecologie de l'étage bathyal dans la Méditerranée occidentale. Univ. Aix-Marseille. (echinoids, holothuroids, asteroids, crinoids, ophiuroids).

Castric-Fey, A. 1974. Les peuplements sessiles du benthos rocheux de l'archipel de Glénan,Sud Bretagne. Ecologie descriptive et expérimentale. Univ. Paris VI. (crinoids)

Chassé, C. 1972. Economie sédimentaire et biologique des estrans meubles des côtes de Bretagne. Univ. Paris VI. (ophiuroids, holothuroids, echinoids).

Chavanon, S. 1974. L'approche statistique dans l'interprétation de la systématique de l'évolution et de la paleoécologie des échinides des formations du Crétacé bordelais. Univ. Bordeaux.

Coffee, G. 1983. Etude des changements d'état du cytoplasme au cours de l'activation parthénogénétique de l'oeuf d'oursin. Aspects cellulaires et moléculaires. Univ. Paris XI.

Cuénot, L. 1887. Contributions à l'étude anatomique des Astérides. Univ. Paris.

Delflandre, C. 1903. La fonction adipogénique du foie dans la série animale. Univ. Paris. (echinoids, asteroid)

Delaunay, H. 1927. Recherches biochimiques sur l'excrétion azotée des invertébrés. Univ. Paris. (holothuroids, echinoids, asteroids)

Devries, A. 1960. Contribution à l'étude de quelques groupes d'Echinides fossiles d'Algérie. Univ. Paris.

Delflandre-Rigaud, M. 1961. Contribution à la connaissance des sclérites d'Holothurides fossiles. Univ. Paris.

Falconetti, C. 1980. Bionomie benthique des fonds situés à la limite du plateau continental de la baie du Maguad(Iles d'Hyères) et de la région de Calvi (Corse). Univ. Nice. (Ophiuroids, echinoids, crinoids, holothuroids, asteroids).

Fenau, L. 1968. Aspects écologiques de la reproduction des échinides et ophiures de Villefranche-sur-Mer. Univ. Paris.

Ferrand, J.-G. 1983. Etude comparée de la vitellogenèse chez *Asterina gibbosa* Penn. et *Asterias rubens* L. (Echinodermes, Astérides) et signification des enzymes lysosomiques des oeufs. Univ. Orléans.

Fredj, G. 1974. Essai de stockage et d'exploitation des données en écologie marine. Application à l'étude bibliographique du benthos Méditerranéen et perspectives. Univ. Nice. (ophiuroids, echinoids, crinoids, holothuroids, asteroids).

Gaudry, A. 1852. Mémoire sur les pièces solides des Stellérides. Univ. Paris.

Glémarec, M. 1969. Les peuplements benthiques du plateau continental nord-Gascogne. Univ. Brest. (crinoid, holothuroid, echinoid, asteroid, ophiuroid).

Gruet, Y. 1982. Recherches sur l'écologie des "recifs" d'hermelles édifiés par l'annelide polychète *Sabellaria alveolata* (Linné). Univ. Nantes. (ophiuroid, asteroid, echinoid).

Guille, A. Bionomie benthique du plateau continental de la côte catalane française. Aspects qualitatifs et quantitatifs. Univ. Paris. (all classes)

Hérouard, E. 1890. Recherches sur les Holothuries des côtes de France. Univ. Paris.

Huet, M. 1972. Etude expérimentale de la régénération du bras et de l'appareil génital d'*Asterina gibbosa* Penn. Univ. Paris XI.

Koehler, R. 1883. Recherches sur les Echinoides des côtes de Provence. Univ. Paris.

Lallier, R. 1953. Recherches sur le problème de la détermination embryonique chez les Amphibiens et les Echinodermes. Univ. Paris.

Laubier, L. 1966. Le coralligène des Alberes. Monographie biocénotique. Univ. Paris. (crinoids, asteroids, holothuroids, ophiuroids, echinoids).

Leclerc, M. 1974. L'organe axial et ses relations avec la sexualité et l'immunité chez les astérides. Univ. Orléans.

Ledoyer, M. 1967. Ecologie de la faune vagile des biotopes méditerranéens accessibles en scaphandre autonome. Univ. Aix-Marseille. (crinoids, asteroids, ophiuroids).

Loi, T.-N. 1967. Contributions à l'étude des peuplements végétaux et animaux du substrat dur intertidal de la baie de Nha Trang. Univ. Aix-Marseille. (echinoids, holothuroids, asteroids).

Massé, H. 1971. Contribution à la l'étude quantitative et dynamique de la macrofaune de peuplements des sables fins infralittoraux des côtes de Provence. Univ. Aix-Marseille. (echinoids, ophiuroids, asteroids).

Molinier, R. 1958. Etudes des biocoénoses marines du Cap Corse. Univ. Paris. (echinoids).

Pavillon, J.-F. 1983. Contributions à l'étude de l'importance écologique des substances organiques dissoutes pour les oeufs et les larves d'invertébrés marins et lagunaires. Univ. Paris VI. (echinoids).

Pequignat, C.E. 1969. Biologie d'*Echinocardium cordatum* (Pennant) de la baie de Seine. nouvelles recherches sur la digestion et l'absorption cutanées chez les Echinides et les Stellérides. Univ. Caen.

Perin, J.-P. 1976. Le lysosome chez les invertébrés: étude des lysozymes de *Nephthys hombergii* et d'*Asterias rubens*. Univ. Paris VII.

Perrier, J.O.E. 1869. Recherches sur les pedicellaires et les ambulacres des Astéries et des Oursins. Univ Paris.

Peyrot -Clausade, M. 1977. Faune cavitaire mobile des platières coralliens de la région de Tuléar (Madagascar). Univ. Aix-Marseille II. (holothuroids, ophiuroids, asteroids, echinoids).

Meijer, L. 1983. Etude des mécanismes responsables de la reprise de la méiose chez l'étoile de mer. Univ. Paris VI.

Moreau, M. 1981. Rôle de l'ion calcium dans la reprise de la méiose ovocytaire chez l'étoile de mer et les Amphibiens. Univ. Paris VI.

Christen, R. 1983. Etude des facteurs qui régulent l'activation des gamètes lors de la fécondation. Univ. Nice (echinoids, asteroids).

Picard, J. 1965. Recherches qualitatives sur les biocoénoses marines des substrats meubles dragables de la région marseillaise. Univ. Aix-Marseille. (crinoids, asteroids, ophiuroids, holothuroids, echinoids).

Pomel, M.A. 1883. Classification méthodique et générale des échinides vivants et fossiles. Univ. Paris.

Prouho, H. 1888. Recherches sur le *Dorocidaris papillata* et quelques autres échinides de la Méditerranée. Univ. Paris.

Pruvot, G. 1897. Essai sur les fonds et la faune de la Manche occidentale (Côtes de Bretagne) comparée à ceux du golfe du Lion. Univ. Paris. (crinoids, asteroids, ophiuroids, holothuroids, echinoids).

Régis, M.-B. 1978. Croissance de deux échinoides du golfe de Marseille (*Paracentrotus lividus* (Imk) et *Arbacia lixula* L.). Aspects écologiques de la microstructure du squelette et de l'évolution des indices physiologiques. Univ. Aix-Marseille II.

Rey, J. 1972. Recherches géologiques sur le Crétacé inférieur de l'Estramadura (Portugal). I: Analyse stratigraphique. II. Analyse paléontologique: les Echinides. Univ. Toulouse.

Reyss, D. 1970. Bionomie benthique de deux canyons sous-marins de la mer Catalane: le rach du Cap et le rach Lacaze-Duthiers. Univ. Paris. (echinoids, holothuroids, asteroids, ophiuroids).

Roman, J. 1965. Morphologie et évolution des *Echinolampas* (Echinoides Cassiduloides). Univ. Paris.

Roux, M. 1978. Ontogénèse et évolution des Crinoides pédonculés depuis le Trias: implications océanographiques. Univ. Paris-Sud.

Rybäk, B. 1954. Recherches sur la biologie des spermatozoïdes d'oursins. Univ. Paris.

Salen-Picard, C. 1982. Contribution à l'étude dynamique des peuplements marins de substrat meuble: les peuplements macrobenthiques circalittoraux soumis à l'envasement dans la région provençale. Univ. Aix-Marseille. (ophiuroids, holothuroids).

Sourie, R. 1955. Contribution à l'étude écologique du côtes rocheuses du Sénégal. Univ. Paris. (echinoids, ophiuroids, holothuroids).

Thomassin, B.A. 1978. Peuplements des sédiments coralliens de la région de Tuléar (S.W. de Madagascar) et leur insertion dans le contexte côtier Indo-Pacifique. Univ. Aix-Marseille. (ophiuroids, asteroids, echinoids, holothuroids).

Viguier, C. 1879. Anatomie comparée du squelette des stéllérides. Univ. Paris.

ECHINODERM LITERATURE

MELENDEZ B; CHAUVEL J. SOME CYSTOIDEA CITED BY J. ALMERA AND M. FUARA IN THE ORDOVICIAN OF BARCELON SPAIN. ACTA GEOL HISP 14. 1979. 318-321.

MLADENOV P V; CHIA F S DEVELOPMENT SETTLING BEHAVIOR METAMORPHOSIS AND PENTACRINOID FEEDING AND GROWTH OF THE FEATHER STAR FLOROMETRA-SERRATISSIMA. MAR BIOL. 1983. 309-324.

SPIEGEL E; BURGER M M; SPIEGEL M: FIBRONECTIN AND LAMININ IN THE EXTRACELLULAR MATRIX AND BASEMENT MEMBRANE OF SEA-URCHIN EMBRYOS. EXP CELL RES 144. 1983. 47-56.

SITTMAN D B; STAFFORD D W PURIFICATION AND CHARACTERIZATION OF THE RNA POLYMERASES OF THE SEA-URCHIN LYTECHINUS VARIEGATUS. PREP BIOCHEM 13. 1983. 21-40.

SHIRAI H; KANATANI H OOCYTE MATURATION IN STARFISH ASTERINA PECTINIFERA SEQUENTIAL CHANGES OF OOCYTE SHAPE INDUCED BY 1 METHYL ADENINE ASSOCIATED WITH GERMINAL VESICLE BREAKDOWN/1 DEV GROWTH DIFFER 24. 1982. 521-530.

HOSE J E; PUFFER H W CYTOLOGIC AND CYTO GENETIC ANOMALIES INDUCED IN PURPLE SEA-URCHIN EMBRYOS STRONGYLOCENTROTUS-PURPURATUS BY PARENTAL EXPOSURE TO BENZO A PYRENE. MAR BIOL LETT 4. 1983. 87-96.

JONDEUNG A; CZIHAK G HISTOCHEMICAL STUDIES OF JELLY COAT OF SEA-URCHIN PARACENTROTUS LIVIDUS EGGS DURING OOGENESIS. HISTOCHEMISTRY 76. 1982. 123-136.

JACOBS H T; POSAKONY J W; GRULA J W; ROBERTS J W; XIN J-H; BRITTON R J; DAVIDSON E H MITOCHONDRIAL DNA SEQUENCES IN THE NUCLEAR GENOME OF STRONGYLOCENTROTUS PURPURATUS. J MOL BIOL 165. 1983. 609-632.

THOMAS T L; BRITTON R J; DAVIDSON E H AN INTERSPERSED REGION OF THE SEA-URCHIN STRONGYLOCENTROTUS-PURPURATUS GENOME REPRÉSENTÉ IN BOTH MATERNAL POLY ADENYLATED RNA AND EMBRYO NUCLEAR RAN. DEV BIOL 94. 1982. 230-239.

MISHCHENKO T YA; KOROTCHENKO O D; ISAI S V BYULL EKSP BIOL MED 94. 1982. 94-96.

MILLER R J; COLODEY A G WIDESPREAD MASS MORTALITIES OF THE GREEN SEA-URCHIN STRONGYLOCENTROTUS DROEBACHIENSIS IN NOVA SCOTIA CANADA. MAR BIOL 73. 1983. 263-268.

DAVID B EARLY STAGES IN ISOLATION OF ABYSSAL BENTHIC POPULATIONS POURTALESIA JEFFREYSI ECHINOIDEA HOLASTEROIDA IN THE NORWEGIAN SEA. OCEANOL ACTA 6. 1983. 13-20.

TAKAHASHI T C; SATO H THERMODYNAMIC ANALYSIS OF THE EFFECT OF DEUTERIUM OXIDE ON MITOTIC SPINDLES IN DEVELOPING SEA-URCHIN EGGS. CELL STRUCT FUNCT 7. 1982. 349-357.

CROSS N L ISOLATION AND ELECTROPHORETIC CHARACTERIZATION OF THE PLASMA MEMBRANE OF SEA-URCHIN STRONGYLOCENTROTUS PURPURATUS SPERM. J CELL SCI 59. 1983. 13-26.

BROERTJES J J S; JENS J N; VAN OUDHEUSDEN D; DE BRUIN M; VOOGT P P DEMONSTRATION OF NUTRIENT FLOW IN THE STARFISH ASTERIAS RUBENS WITH IODINE-125 LABELED PROTEINS. NETH J ZOOL 32. 1982. 472-478.

SARGENT J R; FALK-PETERSEN I-B; CALDER A G FATTY-ACID COMPOSITIONS OF NEUTRAL GLYCERIDES FROM THE OVARIES OF THE ASTEROIDS CTENODISCUS CRISPATUS ASTERIAS LINCKI AND PTERASTER-MILITARIS FROM BALSFJORDEN NORTHERN NORWAY. MAR BIOL (BERL) 72. 1983. 257-264.

CHAFFEE C; SPIES R B THE DEVELOPMENT OF STARFISH EMBRYOS. MAR ENVIRON RES 7. 1982. 265-278.

NOGUCHI T; NARITA H; MARUYAMA; HASHIMOTO K TETRODO TOXIN IN THE STARFISH ASTROPECTEN POLYACANTHUS IN ASSOCIATION WITH TOXIFICATION OF A TRUMPET SHELL BOSHUBORA CHARONIA-SAULIAE. BULL JPN SOC SCI FISH 48. 1982. 1173-1178.

KERRICK W G L; BOLLES L L EVIDENCE THAT MYOSIN LIGHT CHAIN PHOSPHORYLATION REGULATES CONTRACTION IN THE BODY WALL MUSCLES OF THE SEA-CUCUMBER PARASTICHOPUS CALIFORNICUS. J CELL PHYSIOL 112. 1982. 307-315.

KOROTCHENKO O D; MISHCHENKO T Y; ISAY S V PROSTAGLANDINS OF JAPAN SEA INVERTEBRATES 1. THE QUANTITATION OF GROUP B PROSTAGLANDINS IN ECHINODERMS. COMP BIOCHEM PHYSIOL C COMP PHARMACOL 1983. 85-88.

DE PETROCELLIS B; PARENTE A; TOMEI L; GERACI G A H-1 HISTONE AND A PROTAMINE MOLECULE ORGANIZE THE SPERM CHROMATIN OF THE MARINE WORM CHAETOPTERUS VARIOPEDATUS. CELL DIFFER 12. 1983. 129-136.

CHILD G; NOCENTE-MCGRATH C; LIEBER T; HOLT C; KNOWLES J A SEA-URCHIN LYTECHINUS-PICTUS LATE STAGE HISTONE H-3 AND H-4 GENES CHARACTERIZATION AND MAPPING OF A CLUSTERED BUT NONTANDEMLY LINKED MULTI GENE FAMILY. CELL 31. 1982. 383-394.

SCHROETER S C; DIXON J; KASTENDIEK J EFFECTS OF THE STARFISH PATIRIA MINIATA ON THE DISTRIBUTION OF THE SEA-URCHIN LYTECHINUS ANAMESUS IN A SOUTHERN CALIFORNIA USA KELP FOREST. OECOLOGIA 56. 1983. 141-147.

GONZALEZ SANJURJO R THE EPI FAUNA OF THE SEED MUSSEL MYTILUS EDILIS ROPE IN THE RIA-DE-AROSA SPAIN.

TOCA I O ECOLOGY OF THE ECHINODERMS OF THE RIA-DE-AROSA SPAIN. BOL INST ESP OCEANOGR 7. 1982. 1-30.

DOERING P H; PHILLIPS D W MAINTENANCE OF THE SHORE LEVEL SIZE GRADIENT IN THE MARINE SNAIL TEGULA FUNEBRALIS IMPORTANCE OF BEHAVIORAL RESPONSES TO LIGHT AND SEA-STAR PREDATORS. J EXP MAR BIOL ECOL 67. 1983. 159-174.

MOOSLEITNER H FEEDING ASSOCIATIONS ON SANDY BOTTOMS IN THE MEDITERRANEAN. ZOOL ANZ 209. 1982. 269-282.

LANE G N; DUBAR J R PROGRADATION OF THE BORDEN KENTUCKY USA DELTA NEW EVIDENCE FROM CRINOIDS. J PALEONTOL 57. 1983. 112-123.

AUSICH W I FUNCTIONAL MORPHOLOGY AND FEEDING DYNAMICS OF THE EARLY MISSISSIPPIAN CRINOID BARYCRINUS ASTERISCUS. J PALEONTOL 57. 1983. 31-41.

TAKAHASHI N EFFECT OF INJECTION OF STEROIDS ON THE STARFISH TESTES ASTERINA PECTINIFERA. BULL JPN SOC SCI FISH 48. 1982. 513-516.

TAKAHASHI N THE RELATION BETWEEN INJECTION OF STEROIDS AND OVARIAN PROTEIN AMOUNTS IN THE STARFISH ASTERINA PECTINIFERA. BULL JPN SOC SCI FISH 48. 1982. 509-512.

OUDEJANS R C H M; SCHOONEN W G E J; VOGT P A PRODUCTION OF NADPH AND ACETYL COENZYME A FOR LIPID BIOSYNTHESIS IN THE PYLORIC CEEA OF THE SEA-STAR ASTERIAS RUBENS. COMP BIOCHEM PHYSIOL B COMP BIOCHEM 74. 1983. 351-356.

MITA I STUDIES ON FACTORS AFFECTING THE TIMING OF EARLY MORPHOGENETIC EVENTS DURING STARFISH EMBRYOGENESIS. J EXP ZOOL 225. 1983. 293-300.

LEE HC; JOHNSON C; EPEL D CHANGES IN INTERNAL PH ASSOCIATED WITH INITIATION OF MOTILITY AND ACROSOME REACTION OF SEA-URCHIN SPERM. *DEV BIOL* 95. 1983. 31-45.

HYNE R V; GARBERS D L EFFECTS OF PUTATIVE PROTEASE INHIBITORS ON THE ACROSOME REACTION OF SEA-URCHIN SPERMATOZOA. *J REPROD FERTIL* 66. 1982. 51-56.

HYLANDER B L; SUMMERS R G AN ULTRASTRUCTURAL IMMUNO CYTOCHEMICAL LOCALIZATION OF HYALIN IN THE SEA-URCHIN EGG. *DEV BIOL* 93. 1982. 368-380.

BACCETTI B; BURRINI A G; DALLAI R; PALLINI V A MOTILE SYSTEM OF SINGLET MICRO TUBULES IN SPERMATOZOA. *CELL MOTIL* 2. 1982. 93-102.

SMITH K L JR METABOLISM OF 2 DOMINANT EPI BENTHIC ECHINODERMS MEASURED AT BATHYAL DEPTHS IN THE SANTA CATALINA BASIN PACIFIC OCEAN. *MAR BIOL* 72. 1983. 249-256.

SUZUKI Y; NAKAHARA M; NAKAMURA R; UEDA T UPTAKE AND EXCRETION OF COBALT BY SEA-CUCUMBER *STICHOPUS JAPONICUS* AND PRAWN *PENAEUS JAPONICUS*. *BULL JPN SOC SCI FISH* 48. 1982. 1495-1500.

PAWSON D L *PSYCHRONAETES HANSENI* NEW-GENUS NEW-SPECIES OF ELASIPODAN SEA-CUCUMBER FROM THE EASTERN CENTRAL PACIFIC ECHINODERMATA HOLOTHUROIDEA. *PROC BIOL SOC WASH* 96. 1983. 154-159.

ZAVODNIK D DISTRIBUTION OF ECHINODERMATA IN THE NORTHERN ADRIATIC INSULAR REGION. *ACTA ADRIAT* 21. 1982. 437-468.

ROWE F W E; NICHOLS D; JANGOUX M. ANATOMY OF THE SPHERICAL VALVATID STARFISH *PODOSPHAERASTER ECHINODERMATA ASTEROIDEA* WITH COMMENTS ON THE AFFINITIES OF THE GENUS. *MICRONESICA* 18. 1982. 83-94.

BROADHEAD T W THE CARBONIFEROUS CAMERTAE CRINOID SUBFAMILY DICHOCRININAE. *PALAEONTOGR ABT A PALAEZOOL-STRATIGR* 176. 1981. 81-157.

BRUSKIN A M; BEDARD P-A; TYNER A L; SHOWMAN R M; BRANDHORST B P; KLEIN W H A FAMILY OF PROTEINS ACCUMULATING IN ECTODERM OF SEA-URCHIN *STRONGYLOCENTROTUS PURPURATUS* EMBRYOS SPECIFIED BY 2 RELATED COMPLEMENTARY DNA CLONES. *DEV BIOL* 91. 1982. 317-324.

MAZZEI G; GUERRIER P CHANGES IN THE PATTERN OF PROTEIN PHOSPHORYLATION DURING MEIOSIS REINITIATION IN STARFISH *MARTHASTERIAS GLACIALIS* OOCYTES. *DEV BIOL* 91. 1982. 246-256.

BAKER E J; INFANTE A A NONRANDOM DISTRIBUTION OF HISTONE MESSENGER RNA SPECIES INTO POLYSOMES AND NONPOLYSOMAL RIBO NUCLEO PROTEIN PARTICLES IN SEA-URCHIN *STRONGYLOCENTROTUS PURPURATUS* EMBRYOS. *PROC NATL ACAD SCI U S A* 79. 1982. 2455-2459.

KALINOVSKAYA N I; KUZNETSOVA T A; ELYAKOV G B STEROL COMPOSITION OF PACIFIC HOLOTHURIAN *STICHOPUS JAPONICUS*. *COMP BIOCHEM PHYSIOL B COMP BIOCHEM* 74. 1983. 597-602.

OUDEJANS R C H M; VAN DER SLUIS I; VOOGYT P A TRI ACYL GLYCEROL LIPASE ACTIVITY IN THE STORAGE ORGANS OF THE SEA-STAR *ASTERIAS RUBENS*. *COMP BIOCHEM PHYSIOL B COMP BIOCHEM* 74. 1983. 587-592.

ACEVEDO M E; CARROLL E J JR; HEATH R L SEA-URCHIN *STRONGYLOCENTROTUS PURPURATUS* CLEAVAGE IS INHIBITED BY OZONE. *GAMETE RES* 6. 1982. 209-214.

SOLURSH M; KATOW H INITIAL CHARACTERIZATION OF SULFATED MACRO MOLECULES IN THE BLASTOCOELS OF MESENCHYME BLASTULAE OF *STRONGYLOCENTROTUS PURPURATUS* AND *LYTECHINUS PICTUS*. *DEV BIOL* 94. 1982. 326-336.

PICARD A; DOREE M 1 METHYL ADENINE TRIGGERS PARTHENOGENETIC ACTIVATION OF MATURE STARFISH OOCYTES. C R SEANCES ACAD SCI SER III SCI VIE 295. 1982. 311-314.

COBB J L S; STUBBS T R THE GIANT NEURON SYSTEM IN OPHIUROIDS OPHIURA TEXTURATA 3. DETAILED CONNECTIONS OF THE CIRCUM ORAL NERVE RING. CELL TISSUE RES 226. 1982. 675-687.

MACKAY S; NEWROCK K M HISTONE SUBTYPES AND SWITCHES IN SYNTHESIS OF HISTONE SUBTYPES DURING ILYANASSA OBSELETA DEVELOPMENT. DEV BIOL 93. 1982. 430-437.

MOON R T; DANILCHIK M V; HILLE M B AN ASSESSMENT OF THE MASKED MESSAGE HYPOTHESIS SEA-URCHIN STRONGYLOCENTROTUS PURPURATUS EGG MESSENGER RIBO NUCLEO PROTEIN COMPLEXES ARE EFFICIENT TEMPLATES FOR IN VITRO PROTEIN SYNTHESIS. DEV BIOL 93. 1982. 389-403.

HARDING G C; DRINKWATER K F; VASS W P FACTORS INFLUENCING THE SIZE OF AMERICAN LOBSTER HOMARUS AMERICANUS STOCKS ALONG THE ATLANTIC COAST OF NOVA-SCOTIA CANADA GULF OF ST-LAWRENCE AND GULF OF MAINE A NEW SYNTHESIS. CAN J FISH AQUAT SCI 40. 1983. 168-184.

LEWIS J B; BRAY R D COMMUNITY STRUCTURE OF OPHIUROIDS ECHINODERMATA FROM 3 DIFFERENT HABITATS ON A CORAL REEF IN BARBADOS WEST-INDIES. MAR BIOL 73. 1983. 171-176.

SMITH A B; CRIMES T P TRACE FOSSILS FORMED BY HEART-URCHINS A STUDY OF SCOLICIA AND RELATED TRACES. LETHAIA 16. 1983. 79-92.

TSE H G; CRIVELLARO O; MEDINA H; BACILA M THE PERMEABILITY AND THE EFFECT OF ANTHRACENE-LIKE COMPOUNDS ON THE EMBRYONIC DEVELOPMENT OF EGGS FROM THE SEA-URCHIN LYTECHINUS VARIEGATUS VAR ATLANTICUS. COMP BIOCHEM PHYSIOL C COMP PHARMACOL 74. 1983. 159-166.

HERRERA F C; LOPEZ I RELATIONSHIP BETWEEN EXTERNAL SODIUM CONCENTRATION AND INTRA CELLULAR OSMOTIC EFFECTORS IN RESPIRATORY TREE OF HOLOTHURIA GLABERRIMA. COMP BIOCHEM PHYSIOL A COMP PHYSIOL 74. 1983. 267-274.

ECKBERG W R; PEROTTI M E INHIBITION OF GAMETE MEMBRANE FUSION IN THE SEA-URCHIN BY QUERCETIN. BIOL BULL 164. 1983. 62-70.

NICOTRA A A RADIOCHEMICAL EVALUATION OF MITOCHONDRIAL MONO AMINE OXIDASE ACTIVITY TOWARDS SEROTONIN IN SEA-URCHIN EGGS AND EMBRYOS. INT J INVERTEBR REPROD 5. 1982. 283-288.

BERTHEUSSEN K RECEPTORS FOR COMPLEMENT ON ECHINOID PHAGOCYTES 2. PURIFIED HUMAN COMPLEMENT MEDIATES ECHINOID PHAGOCYTOSIS. DEV COMP IMMUNOL 6. 1982. 635-642.

LEVY S; SURES I; KEDES L THE NUCLEOTIDE AND AMINO-ACID CODING SEQUENCE OF A GENE FOR H-1 HISTONE THAT INTERACTS WITH EU CHROMATIN THE EARLY EMBRYONIC H-1 GENE OF THE SEA-URCHIN STRONGYLOCENTROTUS PURPURATUS. J BIOL CHEM 257. 1982. 9438-9443.

EL-SAHN M A; EL-BANNA A A; SHEHATA A M E-T OCCURRENCE OF VIBRIO PARAHAEMOLYTICUS IN SELECTED MARINE INVERTEBRATES SEDIMENT AND SEA WATER AROUND ALEXANDRIA EGYPT. CAN J MICROBIOL 28. 1982. 1261-1264.

HAMMOND L S NUTRITION OF DEPOSIT FEEDING HOLOTHUROIDS AND ECHINOIDS ECHINODERMATA FROM A SHALLOW REEF LAGOON DISCOVERY BY JAMAICA WEST INDIES. AUSTRALIAN INSTITUTE MARINE SCIENCE. P.M.B. NO. 3, TOWNSVILLE, QUEENSLAND 4810, AUSTRALIA. MAR ECOL PROG SER 10 . 1983. 297-306.

BOULAND C; MASSIN C; JANGOUX M THE FINE STRUCTURE OF THE BUCCAL TENTACLES OF HOLOTHURIA FORSKALI ECHINODERMATA HOLOTHUROIDEA. ZOOMORPHOLOGY 101. 1982. 133-149.

BLUM J J; HINES M H DIFFUSION OF CALCIUM II AND THE QUIESCENT RESPONSE OF SEA-URCHIN SPERM FLAGELLA. J THEOR BIOL 100. 1983. 511-524.

TAKAGI T; KANENIWA M; ITABASHI Y FATTY-ACIDS OF 5 SPECIES OF ECHINOIDEA SPECIFICALLY 5 OLEFINIC ACIDS. BULL FAC FISH HOKKAIDO UNIV 33. 1982. 263-269.

YAMADA Y; AKETA K PURIFICATION AND PARTIAL CHARACTERIZATION OF HEM AGGLUTININS IN SEMINAL PLASMA OF THE SEA-URCHIN HEMICENTROTUS PULCHERRIMUS. BIOCHIM BIOPHYS ACTA 709. 1982. 220-226.

SADOKOVA I E DYNAMICS OF CONTENT OF CYCLIC NUCLEOTIDES IN THE DEVELOPING EMBRYOS OF THE SEA-URCHIN STRONGYLOCENTROTUS INTERMEDIUS. ONTOGENEZ 13. 1982. 435-440.

ANDREEVA L F; ANDREEVA T F DNA SYNTHESIS IN EARLY EMBRYOGENESIS OF SEA-URCHINS STRONGYLOCENTROTUS DROEBACHIENSIS 2. DISTRIBUTION OF SYNCHRONOUSLY ACTIVE REPLICONS IN A DNA FIBER. ONTOGENEZ 13. 1982. 378-386.

ANDREEVA L F; ANDREEVA T F DNA SYNTHESIS IN EARLY EMBRYOGENESIS OF SEA-URCHINS STRONGYLOCENTROTUS DROEBACHIENSIS 1. REPLICATION RATE AND REPLICON SIZE AT DIFFERENT STAGES OF EMBRYOGENESIS. ONTOGENEZ 13. 1982. 368-377.

INOUE H; YOSHIOKA T COMPARISON OF CALCIUM II UPTAKE CHARACTERISTICS OF MICROSOMAL FRACTIONS ISOLATED FROM UNFERTILIZED AND FERTILIZED SEA-URCHIN HEMICENTROTUS PULCHERRIMUS EGGS. EXP CELL RES 140. 1982. 283-288.

EJIMA Y; NAKAMURA I; SHIROYA T VARIATION IN SENSITIVITY TO GAMMA-RAY INDUCED CHROMOSOMAL ABERRATIONS DURING THE MITOTIC CYCLE OF THE SEA-URCHIN HEMICENTROTUS PULCHERRIMUS EGG. RADIAT RES 92. 1982. 423-429.

MCCONNELL O J; HUGHES P A; TARGETT N M; DALEY J EFFECTS OF SECONDARY METABOLITES FROM MARINE ALGAE OF FEEDING BY THE SEA-URCHIN LYTECHINUS VARIEGATUS. J CHEM ECOL 8. 1982. 1437-1454.

GAGE J D AGE STRUCTURE IN POPULATIONS OF THE DEEP SEA BRITTLE-STAR OPHIOMUSIUM LYMANI A REGIONAL COMPARISON. DEEP-SEA RES PART A OCEANOGR RES PAP 29. 1982. 1565-1586.

PARULEKAR A H; HARKANTRA S N; ANSARI Z A; MATONDKAR S G P ABYSSAL BENTHOS OF THE CENTRAL INDIAN OCEAN.

DEEP-SEA RES PART A OCEANOGR RES PAP 29. 1982. 1531-1538.

BEIDLER J L; HILLIARD P R; RILL R L ULTRA SENSITIVE STAINING OF NUCLEIC ACIDS WITH SILVER. ANAL BIOCHEM 126. 1982. 374-380.

HOSKIN G P; WAREN A PEASISTILIFER EDULIS NEW SPECIES OF EULIMID PROSOBRANCH PARASITIC ON AN INDO PACIFIC HOLOTHURIAN HOLOTHURIA EDULIS. NAUTILUS 97. 1983. 23-26.

KLIKUSHIN V G CRETACEOUS AND PALEOGENE BOURGUETICRININA ECHINODERMATA CRINOIDEA OF THE USSR. GEOBIOS 15. 1982. 811-844.

BERTHEUSSEN K; SELJELID R RECEPTORS FOR COMPLEMENT ON ECHINOID PHAGOCYTES 1. THE OPSONIC EFFECT OF VERTEBRATE SERA ON ECHINOID PHAGOCYTOSIS. DEV COMP IMMUNOL 6. 1982. 423-432.

SCHATTEN G; SCHATTEN H; BESTOR T H; BALCZON R TAXOL INHIBITS THE NUCLEAR MOVEMENTS DURING FERTILIZATION AND INDUCES ASTERS IN UNFERTILIZED SEA-URCHIN EGGS. J CELL BIOL 94. 1982. 455-465.

FUJISAWA H; AMEMIYA S EFFECTS OF ZINC AND LITHIUM IONS ON THE STRENGTHENING CELL ADHESION IN SEA-URCHIN ANTHOCIDARIS CRASSISPINA BLASTULAE/E EXPERIENTIA 38. 1982. 852-853.

VASSETZKY S G; SEKIRINA G G; SKOBLINA M N; BILINKIS A A THE FUSION OF OOCYTES OF THE STARFISH APHELASTERIAS-JAPONICA 2. THE CAPACITY OF CELL HYBRIDS FOR MATURATION AND CLEAVAGE. CELL DIFFER 12. 1983. 73-76.

SEKIRINA G G; SKOBLINA M N; VASSETZKY S G; BILINKIS A A THE FUSION OF OOCYTES OF THE STARFISH APHELASTERIAS JAPONICA 1. FORMATION OF CELL HYBRIDS. CELL DIFFER 12. 1983. 67-72.

BAILEY A J; GATHERCOLE L J; DLUGOSZ J; KELLER A; VOYLE C A PROPOSED RESOLUTION OF THE PARADOX OF EXTENSIVE CROSS LINKING AND LOW TENSILE STRENGTH OF CUVIERIAN TUBULE COLLAGEN FROM THE SEA-CUCUMBER HOLOTHURIA FORSKALI. INT J BIOL MACROMOL 4. 1982. 329-334.

DE WAAL M; POORTMAN J; VOOGT P A STEROID RECEPTORS IN INVERTEBRATES A SPECIFIC 17-BETA ESTRADIOL BINDING PROTEIN IN A SEA-STAR ASTERIAS RUBENS. MAR BIOL LETT 3. 1982. 317-324.

DALE B; DE SANTIS A; ORTOLANI G; RASOTTO M; SANTELLA L ELECTRICAL COUPLING OF BLASTOMERES IN EARLY EMBRYOS OF ASCIDIANS AND SEA-URCHINS. EXP CELL RES 140. 1982. 457-461.

JENKINS K D; BROWN D A; OSHIDA P S; PERKINS E M CYTOSOLIC METAL DISTRIBUTION AS AN INDICATOR OF TOXICITY IN SEA-URCHINS STRONGYLOCENTROTUS PURPURATUS FROM THE SOUTHERN CALIFORNIA BIGHT USA. MAR POLLUT BULL 13. 1982. 413-421.

KLIKUSHIN V G TAXONOMIC SURVEY OF FOSSIL ISOCRINIDS WITH A LIST OF THE SPECIES FOUND IN THE USSR. GEOBIOS 15. 1982. 299-326.

TANDON K K; SAXENA R K FOSSIL HOLOTHUROIDS FROM MIDDLE EOCENE ROCKS OF KUTCH INDIA. GEOPHYTOLOGY 7. 1977. 229-259.

DE CELIS A K STOMOPNEUSTES VARIOLARIS NEW-RECORD OF REGULAR ECHINOID FROM THE PHILIPPINES. ACTA MANILANA SER A NAT APPL SCI (21). 1982. 80-85.

OTTO J J; BRYAN J THE INCORPORATION OF ACTIN AND FASCIN INTO THE CYTOSKELETON OF FILOPODIAL SEA-URCHIN COELOMOCYTES. CELL MOTIL 1. 1981. 179-192.

VAN DER PLAS A J; KOENDERMAN A H L; DEIBEL-VAN SCHIJNDEL G J; VOOGT P A EFFECTS OF ESTRADIOL 17-BETA ON THE SYNTHESIS OF RNA PROTEINS AND LIPIDS IN THE PYLORIC CECA OF THE FEMALE STARFISH ASTERIAS RUBENS. COMP BIOCHEM PHYSIOL B COMP BIOCHEM 73. 1982. 965-970.

THOMPSON R J THE RELATIONSHIP BETWEEN FOOD RATION AND REPRODUCTIVE EFFORT IN THE GREEN SEA-URCHIN STRONGYLOCENTROTUS DROEBACHIENSIS. OECOLOGIA 56. 1983. 50-57.

IKADAI H; KANATANI H REGENERATION OF OOCYTE SURFACE FACTOR RESPONSIBLE FOR 1 METHYL ADENINE INDUCED OOCYTE MATURATION IN STARFISH ASTERINA PECTINIFERA. BIOMED RES 3. 1982. 378-383.

CHRISTEN R; SHAPIRO B M; SCHACKMANN R W ELEVATION OF THE INTRA CELLULAR PH ACTIVATES RESPIRATION AND MOTILITY OF SPERM OF THE SEA-URCHIN STRONGYLOCENTROTUS PURPURATUS. J BIOL CHEM 257. 1982. 14881-14887.

MAURER D; LEATHEM W; MENZIE C MACRO BENTHIC INVERTEBRATES FOR THE MIDDLE ATLANTIC CONTINENTAL SHELF. INT REV GESAMTEN HYDROBIOL 67. 1982. 491-515.

PETTIT G R; RIDEOUT J A; HASLER J A; DOUBEK D L; REUCROFT P R ISOLATION AND CHARACTERIZATION OF LYTECHINASTATIN. J NAT PROD 44. 1981. 713-716.

MOJETTA A OBSERVATIONS AND CONSIDERATIONS ON PROBABLE TROPHIC BEHAVIOR OF CHARONIA RUBICUNDA MOLLUSCA GASTROPODA PRELIMINARY NOTE. BOLL MALACOL 17. 1981. 285-289. ASTEROIDEA

HENDLER G SLOW FLICKS SHOW STAR TRICKS ELAPSED TIME ANALYSIS OF BASKETSTAR ASTROPHYTON MURICATUM FEEDING BEHAVIOR. BULL MAR SCI 32. 1982. 909-918.

EBERT T A LONGEVITY LIFE HISTORY AND RELATIVE BODY WALL SIZE IN SEA-URCHINS. ECOL MONOGR 52. 1982. 353-394.

SOODAN K S FOSSIL HOLOTHUROIDEA FROM KUTCH INDIA 4. GEOPHYTOLOGY 7. 1977. 179-182.

HENDLER G AN ECHINODERM VITELLARIA WITH A BILATERAL LARVAL SKELETON EVIDENCE FOR THE EVOLUTION OF OPHIUROID VITELLARIAE FROM OPHIOPLUTEI. BIOL BULL (WOODS HOLE) 163. 405-530.

SHOJI Y; HAMAGUCHI Y; HIRAMOTO Y QUANTITATIVE STUDIES ON POLARIZATION OPTICAL PROPERTIES OF LIVING CELLS 3. CORTICAL BIREFRINGENCE OF THE DIVIDING SEA-URCHIN CLYPEASTER JAPONICUS EGGS. CELL MOTIL 1. 1981. 387-397.

OKUNO M; BROKAW C J EFFECTS OF TRITON EXTRACTION CONDITIONS ON BEAT SYMMETRY OF SEA-URCHIN LYTECHINUS PICTUS SPERM FLAGELLA. CELL MOTIL 1. 1981. 363-370.

OKUNO M; BROKAW C J CALCIUM INDUCED CHANGE IN FORM OF DE MEMBRANATED SEA-URCHIN LYTECHINUS PICTUS SPERM FLAGELLA IMMOBILIZED BY VANADATE/o CELL MOTIL 1. 1981. 349-362.

OSANAI K PIGMENT GRANULES CAN MIGRATE TO THE CORTEX IN SEA-URCHIN EGGS ACTIVATED WITHOUT CORTICAL GRANULE DISCHARGE. BULL MAR BIOL STN ASAMUSHI 17. 1982. 109-116.

ROMASHINA N A; vas'KOVSKII V E FATTY-ACID COMPOSITION OF EMBRYONIC AND ADULT SEA-URCHINS STRONGYLOCENTROTUS INTERMEDIUM REARED AT DIFFERENT TEMPERATURES. p. 553 BIOL MORG (2) 1982 75-77.

WATTS S A; LAWRENCE J M ACTIVITY AND KINETIC CHARACTERISTICS OF TRIOSE PHOSPHATE ISOMERASE EC-5.3.1.1 FROM THE PYLORIC CECA OF ECHINASTER SPECHINODERMATA ASTEROIDEA EXPOSED TO DIFFERENT TEMPERATURES. COMP BIOCHEM PHYSIOL B COMP BIOCHEM 73. 1982. 881-886.

WILLIAMS R J; TAKAHASHI T THE ROLE OF OSMOTIC STRESS AND SURFACE ENERGY IN FREEZING INJURY OF SEA-URCHIN STRONGYLOCENTROTUS PURPURATUS EGGS. COMP BIOCHEM PHYSIOL A COMP PHYSIOL 73. 1982. 621-626.

OUDEJANS R C H M; RUTTEN V P M G FATE OF GLYCEROL AND ACYLE MOIETIES FROM DIETARY TRI OLEOYL GLYCEROL IN THE SEA-STAR ASTERIAS RUBENS. COMP BIOCHEM PHYSIOL B COMP BIOCHEM 73. 1982. 685-692.

FALK-PETERSEN I-B; SARGENT J R REPRODUCTION OF ASTEROIDS FROM BALSFJORDEN NORTHERN NORWAY ANALYSES OF LIPIDS IN THE GONADS OF CTENODISCUS CRISPATUS ASTERIAS LINCKI AND PTERASTER-MILITARIS. MAR BIOL 69. 1982. 291-298.

KOBAYASHI Y STABLE MICRO TUBULES IN STARFISH ASTERIAS AMURENSIS SPERM FLAGELLUM THEIR STRUCTURES AND HETEROGENEITY OF TUBULIN. J BIOCHEM 92. 1982. 1305-1318.

ALVAREZ V B; TOUZET M O POLYMORPHISM IN THE COLOR OF THE STARFISH OREASTER RETICULATUS ECHINODERMATA ASTEROIDEA. REV INVEST MAR 2. 1981. 27-72.

NELSON L MEMBRANE STABILIZING AND CALCIUM BLOCKING AGENTS AFFECT ARBACIA SPERM MOTILITY. BIOL BULL 163. 1982.

LONGO F J; SO F; SCHUETZ A W MEIOTIC MATURATION AND THE CORTICAL GRANULE REACTION IN STARFISH ASTERIAS FORBESI EGGS. BIOL BULL 163. 1982.

LONGO F J; SCHUETZ A W MALE PRONUCLEAR DEVELOPMENT IN STARFISH ASTERIAS OOCYTES TREATED WITH 1 METHYL ADENINE. BIOL BULL 163. 1982.

KANUNGO K IN VITRO STUDIES ON THE EFFECTS OF CELL-FREE COELOMIC FLUID CALCIUM AND-OR MAGNESIUM ON CLUMPING OF COELOMOCYTES OF THE SEA-STAR ASTERIAS FORBESI ECHINODERMATA ASTEROIDEA. BIOL BULL 163. 1982.

DUNHAM P; NELSON L; VOSSHALL L; WEISSMANN G EFFECTS OF ENZYMATIC AND NON-ENZYMATIC PROTEINS ON ARBACIA SPERMATOZOA REACTIVATION OF AGED SPERM AND THE INDUCTION OF POLY SPERMY. BIOL BULL 163. 1982. 405-530.

WATTS S A; SCHEIBLING R E; MARSH A G; MCCLINTOCK J B EFFECT OF TEMPERATURE AND SALINITY ON LARVAL DEVELOPMENT OF SIBLING SPECIES OF ECHINASTER ECHINODERMATA ASTEROIDEA AND THEIR HYBRIDS. BIOL BULL 163. 1982. 348-354.

SCHUEL H; DANDEKAR P; SCHUEL R UREA PARTHENOGENETICALLY ACTIVATES THE CORTICAL REACTION AND ELONGATION OF MICRO VILLI IN EGGS OF THE SEA-URCHIN STRONGYLOCENTROTUS PURPURATUS. BIOL BULL 163. 1982. 337-347.

EMLET R B ECHINODERM CALCITE A MECHANICAL ANALYSIS FROM LARVAL SPICULES. BIOL BULL 163. 1982. 264-275.

HILL R B; SANGER J W; CHEN C-J CLOSE APPPOSITION OF MUSCLE CELLS IN THE LONGITUDINAL BANDS OF THE BODY WALL OF A HOLOTHURIAN ISOSTICHOPUS BADIONOTUS. CELL TISSUE RES 227. 1982. 465-474.

STUBBS T R; COBB J L S A NEW CILIARY FEEDING STRUCTURE IN AN OPHIUROID ECHINODERM. TISSUE CELL 14. 1982. 573-584.

HARRISON M F; WILT F H THE PROGRAM OF H-1 HISTONE SYNTHESIS IN STRONGYLOCENTROTUS PURPURATUS EMBRYOS AND THE CONTROL OF ITS TIMING. J EXP ZOOL 223. 1982. 245-256.

HARRINGTON F E; EASTON D P A PUTATIVE PRECURSOR TO THE MAJOR YOLK PROTEIN OF THE SEA-URCHIN. DEV BIOL 94. 1982. 505-508.

MAXSON R E JR; WILT F H ACCUMULATION OF THE EARLY HISTONE MESSENGER RNA DURING THE DEVELOPMENT OF STRONGYLOCENTROTUS PURPURATUS. DEV BIOL 94. 1982. 435-440.

MAURON A; KEDES L; HOUGH-EVANS B R; DAVIDSON E H ACCUMULATION OF INDIVIDUAL HISTONE MESSENGER RNA DURING EMBRYOGENESIS OF THE SEA-URCHIN STRONGYLOCENTROTUS PURPURATUS. DEV BIOL 94. 1982. 425-434.

VILLACORTA-MOELLER M N; CARROLL E J JR SEA-URCHIN STRONGYLOCENTROTUS PURPURATUS EMBRYO FERTILIZATION ENVELOPE IMMUNOLOGICAL EVIDENCE THAT SOLUBLE ENVELOPE PROTEINS ARE DERIVED FROM CORTICAL GRANULE SECRETIONS. DEV BIOL 94. 1982. 415-424.

BESTOR T H; SCHATTEN G CONFIGURATIONS OF MICRO TUBULES IN ARTIFICIALLY ACTIVATED EGGS OF THE SEA-URCHIN LYTECHINUS VARIEGATUS. EXP CELL RES 141. 1982. 71-78.

BARBERO J L; DE BUITRAGO G G; RODRIGUEZ R STRUCTURAL HOMOLOGY BETWEEN THE CENTRAL DOMAIN OF THE H-1 HISTONES FROM SEA-URCHIN AND THE FRUIT FLY CERATITIS-CAPITATA. COMP BIOCHEM PHYSIOL B COMP BIOCHEM 73. 1982. 475-480.

BILLETT D S M; HANSEN B ABYSSAL AGGREGATIONS OF KOLGA HYALINA ECHINODERMATA HOLOTHURIOIDEA IN THE NORTHEAST ATLANTIC OCEAN A PRELIMINARY REPORT. DEEP-SEA RES PART A OCEANOGR RES PAP 29. 1982. 799-818.

BOWMER T REPRODUCTION IN AMPHIURA-FILIFORMIS ECHINODERMATA OPHIUROIDEA SEASONALITY IN GONAD DEVELOPMENT. MAR BIOL 69. 1982. 290-290.

OTTESEN P O; LUCAS J S DIVIDE OR BROADCAST INTERRELATION OF ASEXUAL AND SEXUAL REPRODUCTION IN A POPULATION OF THE FISSIPAROUS HERMAPHRODITIC SEA-STAR NEPANTHIA BELCHERI ASTEROIDEA ASTERINIDAE. MAR BIOL 69. 1982. 223-234.

MIHALY S MID TRIASSIC ECHINOIDEA OF THE AGGTELEKI KARST NORTHERN HUNGARY. MAGY ALL FOLDT INTEZ EVI JEL 1979. 1981. 297-332.

AUSICH W I; LANE N G CRINOIDS FROM THE EDWARDSVILLE FORMATION LOWER MISSISSIPPAN OF SOUTHERN INDIANA USA. J PALEONTOL 56. 1982. 1343-1361.

PAIN S L; TYLER P A; GAGE J D THE REPRODUCTIVE BIOLOGY OF THE DEEP SEA ASTEROIDS BENTHOPECTEN SIMPLEX PECTINASTER FILHOLI AND PONASTER TENUIS PINUS PHANEROZONIA BENTHOPECTINIDAE FROM THE ROCKALL TROUGH. J EXP MAR BIOL ECOL 65. 1982. 195-211.

PROKOP R J SOME NEW HEXACRINITIDS CRINOIDEA CAMERATA FROM THE LOWER DEVONIAN OF BOHEMIA CZECHOSLOVAKIA. VESTN USTRED USTAVU GEOL 57. 1982. 277-283.

DONOVAN S K; PAUL C R C LOWER CAMBRIAN ECHINODERM PLATES FROM COMLEY SHROPSHIRE ENGLAND UK. GEOL MAG 119. 1982. 611-614.

LUCAS J S QUANTITATIVE STUDIES OF FEEDING AND NUTRITION DURING LARVAL DEVELOPMENT OF THE CORAL REEF ASTEROID ACANTHASTER PLACCI. J EXP MAR BIOL ECOL 65. 1982. 173-194.

BURNELL D J; APSIMON J W; GILGAN M W SEASONAL AND GEOGRAPHIC VARIATIONS OF THE STEROLS FROM THE STARFISH ASTERIAS VULGARIS. STEROIDS 39. 1982. 357-370.

TREUFELDT R; GUSTAFSON T NEURO PHARMACOLOGICAL ANALYSIS OF MECHANISMS CONTROLLING LARVAL BEHAVIOR IN THE SEA-URCHIN 2. EFFECTS OF PHYSOSTIGMINE AND THE ROLE OF CHOLINERGIC MECHANISMS. ACTA ZOOL 62. 1981. 249-258.

MOTOKAWA T RAPID CHANGE IN MECHANICAL PROPERTIES OF ECHINODERM CONNECTIVE TISSUES CAUSED BY COELOMIC FLUID. COMP BIOCHEM PHYSIOL C COMP PHARMACOL 73. 1982. 223-229.

HIRANO K-I ASTER FORMATION IN SEA-URCHIN HEMICENTROTUS PULCHERRIMUS EGGS INDUCED BY THE INJECTION OF ENZYME TREATED SPERM CENTRIOLES. DEV GROWTH DIFFER 24. 1982. 273-282.

KOCHETKOV N K; SMIRNOVA G P; GLUKHODED I S GANGLIOSIDES WITH SIALIC ACID BOUND TO N ACETYL GALACTOSAMINE FROM HEPATO PANCREAS OF THE STARFISH EASTERIAS RETIFERA AND ASTERIAS AMURENSIS. BIOCHIM BIOPHYS ACTA 712. 1982. 650-658.

NICOTRA A; NACCARATO M MONO AMINE OXIDASE EC-1.4.3.4 ACTIVITY IN PARACENTROTUS LIVIDUS SPERM CELLS. INT J INVERTEBR REPROD 5. 1982. 101-106.

SAMMARCO P W EFFECTS OF GRAZING BY DIADEMA ANTILLARUM ECHINODERMATA ECHINOIDEA ON ALGAL DIVERSITY AND COMMUNITY STRUCTURE. J EXP MAR BIOL ECOL 65. 1982. 83-105.

BLACK R; JOHNSON M S; TRENDALL J T RELATIVE SIZE OF ARISTOTLES LANTERN IN ECHINOMETRA MATHAEI OCCURRING AT DIFFERENT DENSITIES. MAR BIOL 71. 1982. 101-106.

ESPINOSA J ASTROPECTEN ARTICULATUS AND ASTROPECTEN-DUPLICATUS ECHINODERMATA ASTEROIDEA 2 IMPORTANT PREDATORS OF BIVALVES. POEYANA INST ZOOL ACAD CIENC CUBA (249). 1982. 1-12.

JACOB P G; ZARBA M A; SALEM A A RESULTS OF TOXICITY TESTS WITH MARINE ORGANISMS OF KUWAITI COAST. INDIAN J FISH 27. 1980. 111-122. (ECHINOIDEA)

BUROVINA I V; MOTAVKIN P A; PIVOVAROVA N B; SKUL'SKII A EFFECT OF COPPER ON FERTILIZATION AND ION COMPOSITION OF SEA URCHIN STRONGYLOCENTROTUS NUDUS OOCYTES. BIOL MORYA (6). 1981. 61-67.

STRIMPLE H L THE CHESTERAN CRINOID SPECIES AGASSIZOCRINUS DISSIMILIS. J PALEONTOOL 56. 1982. 1133-1137.

KITAJIMA T; MATSUDA R SPECIFIC PROTEIN SYNTHESIS OF SEA URCHIN HEMICENTROTUS PULCHERRIMUS MICROMERES DURING DIFFERENTIATION. ZOOL MAG 91. 1982. 200-205.

ADEYEMO O; KOIDE S S SODIUM-22 AND RUBIDIUM-86 FLUXES IN SPERMATOZOA AND OOCYTES OF ARBACIA PUNCTULATA. GAMETE RES 6. 1982. 135-144.

OTTO J J; KANE R E; BRYAN J RE DISTRIBUTION OF ACTIN AND FASCIN IN SEA URCHIN TRIPNEUSTES GRATILLA EGGS AFTER FERTILIZATION. CELL MOTIL 1. 1980. 31-40.

EDDS K T FORMATION AND ELONGATION OF FILOPODIA DURING TRANSFORMATION OF SEA-URCHIN STRONGYLOCENTROTUS DROEBACHIENSIS COELOMOCYTES. CELL MOTIL 1. 1980. 131-140.

SCHATTEN H; SCHATTEN G; PETZELT C; MAZIA D EFFECTS OF GRISEOFULVIN ON FERTILIZATION AND EARLY DEVELOPMENT IN SEA-URCHINS INDEPENDENCE OF DNA SYNTHESIS CHROMOSOME CONDENSATION AND CYTOKINESIS CYCLES FROM MICRO TUBULE MEDIATED EVENTS. EUR J CELL BIOL 27. 1982. 74-87.

VOROB'EV V A THE MORPHOLOGY OF MITOSES AND SEASONAL CHANGES IN PROLIFERATION WITH THE STARFISH ASTERIAS AMURENSIS STOMACH EPITHELIUM. TSITOLOGIYA 24. 1982. 580-585.

PODGORNAYA O I; DROZDOV A L; MARGULIS B A; PINAEV G P SARCOPLASMIC ACTIN IN MUSCLE CELLS OF AMBULACRAL TUBES OF THE SEA STAR BIOFIZIKA 27. 1982. 285-287.

NICOTRA A ON THE FINE STRUCTURE OF PARACENTROTUS LIVIDUS PERMANENT BLASTULAE OBTAINED AFTER TREATMENT WITH 5 BROMODEOXY URIDINE. DEV GROWTH DIFFER 24. 1982. 39-54.

HIRUMA T; HINO A; FUJIWARA A; ASUMANU I INHIBITION OF RESPIRATION IN SEA-URCHIN SPERMATOZOA FOLLOWING INTERACTION WITH FIXED UNFERTILIZED EGGS 5. INHIBITION OF ELECTRON TRANSPORT IN A SPAN OF MITOCHONDRIAL RESPIRATORY CHAIN BETWEEN CYTOCHROME B AND CYTOCHROME C IN SEA-URCHIN SPERMATOZOA INDUCED BY THE INTERACTION WITH GLUTARALDEHYDE FIXED EGGS. DEV GROWTH DIFFER 24. 1982. 17-24.

TILNEY L G; INOUE S ACROSOMAL REACTION OF THYONE BRIAREUS SPERM 2. THE KINETICS AND POSSIBLE MECHANISM OF ACROSOMAL PROCESS ELONGATION. J CELL BIOL 93. 1982. 820-827.

INOUE S; TILNEY L G ACROSOMAL REACTION OF THYONE BRIZEUS SPERM 1. CHANGES IN THE SPERM HEAD VISUALIZED BY HIGH RESOLUTION VIDEO MICROSCOPY. J CELL BIOL 93. 1982. 812-819.

ADEYEMO O; CHANG C Y; SEGAL S J; KOIDE S S GOSSYPOL ACTION ON THE PRODUCTION AND UTILIZATION OF ATP IN SEA-URCHIN SPERMATOZOA. ARCH ANDROL 9. 1982. 343-350.

DEMING J W; COLWELL R R BAROPHILIC BACTERIA ASSOCIATED WITH DIGESTIVE TRACTS OF ABYSSAL HOLOTHURIANS. *APPL ENVIRON MICROBIOL* 44. 1982. 1222-1230.

VADAS R L; FENCHEL T; OGDEN J C ECOLOGICAL STUDIES ON THE SEA-URCHIN LYTECHINUS VARIEGATUS AND THE ALGAL SEAGRASS COMMUNITIES OF THE MISKITO CAYS NICARAGUA. *AQUAT BOT* 14. 1982. 109-126.

CAMERON R A; RUMRILL S S LARVAL ABUNDANCE AND RECRUITMENT OF THE SAND-DOLLAR DENDRASTER EXCENTRICUS IN MONTEREY BAY CALIFORNIA USA. *MAR BIOL* 71. 1982. 197-202.

MCNAMARA K J A NEW SPECIES OF THE ECHINOID RHYNOPRISSEUS SPATANGOIDA BRISIIDAE FROM NORTHWEST AUSTRALIA. *REC WEST AUST MUS* 9. 1982. 349-360.

GEYS J F REGULAR ECHINOIDS FROM THE TURONIAN AND THE CONIACIAN UPPER CRETACEOUS OF THE MONS BASIN BELGIUM. *BULL INST R SCI NAT BELG SCI TERRE* 53. 1982. 1-20.

CLARK H E S A NEW GENUS AND 2 NEW SPECIES OF SEA-STARS FROM NORTH OF NEW ZEALAND WITH NOTES ON ROSASTER SPECIES ECHINODERMATA ASTEROIDEA. *NATL MUS N Z REC* 2. 1982. 35-42.

MARSHALL J; GUILLE A; ROUX M THE TYPE SPECIMENS OF CRINOIDS ECHINODERMATA HOUSED IN THE NATIONAL MUSEUM OF NATURAL HISTORY PARIS FRANCE. *BULL MUS NATL HIST NAT SECT A ZOOL BIOL ECOL ANIM* 3. 1981. 713-728.

JANGOUX M A NEW SPECIES OF BATHYAL ASTEROID CAUGHT OFF NEW CALEDONIA ECHINODERMATA ASTEROIDEA. *BULL MUS NATL HIST NAT SECT A ZOOL BIOL ECOL ANIM* 3 (3). 1981. 709-712.

MITA I; SATOH N TIMING OF GASTRULATION IN FUSED DOUBLE EMBRYOS FORMED FROM EGGS WITH DIFFERENT CLEAVAGE SCHEDULES IN THE STARFISH ASTERINA PECTINIFERA. *J EXP ZOOL* 223. 1982. 67-74.

PICARD A; DOREE M CALCIUM IS NOT THE SECOND MESSENGER OF 1 METHYL ADENINE IN MEIOSIS RE INITIATION OF STARFISH MARTHASTENAS GLACIALIS OOCYTES. *C R SEANCES ACAD SCI SER III SCI VIE* 294. 1982. 595-598.

KAY E; EDDY E M; SHAPIRO B M ASSEMBLY OF THE FERTILIZATION MEMBRANE OF THE SEA-URCHIN STRONGYLOCENTROTUS PURPURATUS ISOLATION OF A DIVALENT CATION DEPENDENT INTERMEDIATE AND ITS CROSS LINKING IN-VITRO. *CELL* 29. 1982. 867-876.

TYLER P A; PAIN S L THE REPRODUCTIVE BIOLOGY OF PLUTONASTER BIFRONS DYTASTER INSIGNIS AND PSILASTER ANDROMEDA ASTEROIDEA ASTROPECTINIDAE FROM THE ROCKALL TROUGH SCOTLAND UK. *J MAR BIOL ASSOC U K*. 62. 1982. 869-888.

KALLENBACH R J; MAZIA D ORIGIN AND MATURATION OF CENTRIOLES IN ASSOCIATION WITH THE NUCLEAR ENVELOPE IN HYPERTONIC STRESSED SEA-URCHIN STRONGYLOCENTROTUS PURPURATUS EGGS. *EUR J CELL BIOL* 28. 1982. 68-76.

ILIFFE T M; PEARSE J S ANNUAL AND LUNAR REPRODUCTIVE RHYTHMS OF THE SEA-URCHIN DIADEMA ANTILLARUM IN BERMUDA. *INT J INVERTEBR REPROD* 5. 1982. 139-148.

MILLER R J STABILITY OF A SEA-URCHIN FRONT IN SOUTHWEST NOVA SCOTIA CANADA. *CAN MANUSCR REP FISH AQUAT SCI* (1662). 1982. I-V, 1-11.

MORENO C A; SUTHERLAND J P PHYSICAL AND BIOLOGICAL PROCESSES IN A MACROCYSTIS PYRIFERA COMMUNITY NEAR VALDIVIA CHILE. *OECOLOGIA* 55. 1982. 1-6. (ECHINOIDEA)

COWEN R K; AGEIAN C R; FOSTER M S THE MAINTENANCE OF COMMUNITY STRUCTURE IN A CENTRAL CALIFORNIA USA GIANT KELP FOREST. *J EXP MAR BIOL ECOL* 64. 1982. 189-201.

DOERING P H REDUCTION OF SEA-STAR PREDATION BY THE BURROWING RESPONSE OF THE HARD CLAM MERCENARIA MERCENARIA MOLLUSCA BIVALVIA. *ESTUARIES* 5. 1982. 310-315.

GAGE J D; TYLER P A DEPTH RELATED GRADIENTS IN SIZE STRUCTURE AND THE BATHYMETRIC ZONATION OF DEEP SEA BRITTLE-STARS. MAR BIOL 71. 1982. 299-308.

HAWKINS C M; LEWIS J B ECOLOGICAL ENERGETICS OF THE TROPICAL SEA-URCHIN DIADEMA ANTILLARUM IN BARBADOS WEST INDIES. ESTUARINE COASTAL SHELF SCI 15. 1982. 645-670.

PRICE A R G WESTERN ARABIAN GULF ECHINODERMS IN HIGH SALINITY WATERS AND THE OCCURRENCE OF DWARFISM. J NAT HIST 16. 1982. 519-528.

MCCLINTOCK J B; LAWRENCE J M PHOTO RESPONSE AND ASSOCIATIVE LEARNING OF LUIDIA CLATHRATA ECHINODERMATA ASTEROIDEA. MAR BEHAV PHYSIOL 9. 1982. 13-22.

TAKAHASHI T; DOUGLAS M S; WILLIAMS R J COAGULATION OF SEA-URCHIN EGG CYTOPLASM BY HIGH SALT CONCENTRATIONS. CRYOBIOLOGY 19. 1982. 511-519.

AZHGIKHIN I S; GANDEL V G; ARAZASHVILI A I; ZAMUREENKO V A; MEKHTIKHANOV S D BIOLOGICALLY ACTIVE SUBSTANCES OF PHARMACEUTICAL INTEREST OBTAINED FROM HYDROBIONTS OF THE U.S.S. TERRITORIAL WATERS. FARMATSIYA 30. 1981. 26-34.

KYTE M A OPHIACANTHA ABYSSA NEW-SPECIES AND OPHIOPHTHALMUS DIPLASIA NEW-COMBINATION SUGGESTED IN THE OPHIUROID FAMILY OPHIACANTHIDAE FROM OFF OREGON USA. PROC BIOL SOC WASH 95. 1982. 505-508.

GUNDERSEN G G; GABEL C A; SHAPIRO B M AN INTERMEDIATE STATE OF FERTILIZATION INVOLVED IN INTERNALIZATION OF SPERM COMPONENTS. DEV BIOL 93. 1982. 59-72.

GREEN J D; SUMMERS R G EFFECTS OF PROTEASE INHIBITORS ON SPERM RELATED EVENTS IN SEA-URCHIN FERTILIZATION. DEV BIOL 93. 1982. 139-144.

MIZOGUCHI H; YASUMASU I ARCHENTERON FORMATION INDUCED BY ASCORBATE AND ALPHA KETO GLUTARATE IN SEA-URCHIN EMBRYOS KEPT IN SULFATE FREE ARTIFICIAL SEA WATER. DEV BIOL 93. 1982. 119-125.

GOUSTIN A S; WILT F H DIRECT MEASUREMENT OF HISTONE PEPTIDE ELONGATION RATE IN CLEAVING SEA-URCHIN STRONGYLOCENTROTUS PURPURATUS EMBRYOS. BIOCHIM BIOPHYS ACTA 699. 1982. 22-27.

VAN DER PLAS A J; VOOGT P A THE BIOCHEMICAL COMPOSITION OF THE PYLORIC CEEA AND ITS RELATION TO DNA LEVELS IN THE FEMALE STARFISH ASTERIAS RUBENS DURING THE REPRODUCTIVE CYCLE. J COMP PHYSIOL B BIOCHEM SYST ENVIRON PHYSIOL 148. 1982. 49-56.

SHIRAI H; KANATANI H EFFECT OF 1 METHYL ADENINE ON RESPONSES OF SPERMATOZOA TO EGG JELLY IN STARFISH ASTERINA PECTINIFERA A CONVENIENT METHOD FOR COUNTING THE RATE OF ACROSOME REACTION AND FOR MEASURING SPERM MOTILITY. ZOOL MAG 91. 1982. 272-280.

KUZNETSOVA T A; ANISIMOV M M; POPOV A M; BARANOVA S I; AFIYATULLOV SH SH; KAPUSTINA I I; ANTONOV A S; ELYAKOV G B A COMPARATIVE STUDY IN-VITRO OF PHYSIOLOGICAL ACTIVITY OF TRI TERPENE GLYCOSIDES OF MARINE INVERTEBRATES OF THE ECHINODERM TYPE. COMP BIOCHEM PHYSIOL C COMP PHARMACOL 73. 1982. 41-44.

MOTOKAWA T FACTORS REGULATING THE MECHANICAL PROPERTIES OF HOLOTHURIAN DERMIS. J EXP BIOL 99. 1982. 29-42.

EYLERS J P ION DEPENDENT VISCOSITY OF HOLOTHURIAN BODY WALL AND ITS IMPLICATIONS FOR THE FUNCTIONAL MORPHOLOGY OF ECHINODERMS. J EXP BIOL 99. 1982. 1-8.

FALCK-PEDERSEN E; NEUMAN W; MORRIS P W INTERACTION OF SEVERAL CLASS II AND CLASS III RNA POLYMERASES WITH 2 FAMILIES OF 7' SUBSTITUTED ALPHA AMANITIN. BIOCHEMISTRY 21. 1982. 5164-5170.

CZECZUGA B; KRYWUTA S INVESTIGATIONS OF CAROTENO PROTEIN COMPLEXES IN ANIMALS
 5. LYSIASTERIAS PERRIERI AND STERECHINUS NEUMAYERI ECHINODERMATA FROM THE ANTARCTIC.
 COMP BIOCHEM PHYSIOL B COMP BIOCHEM 72. 1982. 705-708.

VOOGT P A; VAN RHEENEN J W A CARBOHYDRATE CONTENT AND COMPOSITION OF ASTERO SAPONINS FROM DIFFERENT ORGANS OF THE SEA-STAR ASTERIAS RUBENS RELATION TO THEIR HEMOLYTIC ACTIVITY AND IMPLICATIONS FOR THEIR BIOSYNTHESIS. COMP BIOCHEM PHYSIOL B COMP BIOCHEM 72. 1982. 683-688.

EJIMA Y; SHIROYA T PHOTO REACTIVATION ASSOCIATED WITH CHROMOSOMAL ABNORMALITY IN SEA-URCHIN HEMICENTROTUS PULCHERRIMUS EGGS FERTILIZED WITH UV IRRADIATED SPERM/ PHOTOCHEM PHOTOBIOOL 36. 1982. 37-42.

SPINELLI G; CASANO C; GIANGUZZA F; CIACCIO M; PALLA F TRANSCRIPTION OF SEA-URCHIN PARACENTROTUS LIVIDUS MESENCHYME BLASTULA HISTONE GENES AFTER HEAT SHOCK. EUR J BIOCHEM 128. 1982. 509-514.

TENORE K R; BOYER L F; CAL R M; CORRAL J; GARCIA-FERNANDEZ C; GONZALEZ N; GONZALEZ-CURRIARAN E; HANSON R B; IGLESIAS J; ET AL COASTAL UPWELLING IN THE RIAS BAJAS NORTHWESTERN SPAIN CONTRASTING THE BENTHIC REGIMES OF THE RIAS DE AROSA AND DE MUROS. J MAR RES 40. 1982. 701-772. (HOLO, OPH)

BERRY P F BIOMASS AND DENSITY OF DETRITIVORES ON A LITTORAL ROCKY REEF ON THE NATAL COAST SOUTH AFRICA WITH AN ESTIMATE OF POPULATION PRODUCTION FOR THE ASCIDIAN PYURA STOLONIFERA. OCEANOGR RES INST INVEST REP (53). 1982. 1-12. (HOLO)

SCHMITT R J CONSEQUENCES OF DISSIMILAR DEFENSES AGAINST PREDATION IN A SUB TIDAL MARINE COMMUNITY. ECOLOGY 63. 1982. 1588-1601.

SMITH A B TOOTH STRUCTURE OF THE PYGASTEROID SEA-URCHIN PLESIECHINUS ORNATUS. PALAEONTOLOGY 25. 1982. 891-896.

GAARDE W A; MCCLENAGHAN L R JR GENIC VARIABILITY DISPERSAL AND DIFFERENTIATION IN 2 SPECIES OF OPHIUROIDS FROM SOUTHERN CALIFORNIA USA. SOUTHWEST NAT 27. 1982. 255-262.

DERIKOT I V; BLINOV A M IN-VITRO CULTIVATION OF SOMATIC CELLS OF MARINE MOLLUSKS AND ECHINODERMS METHODICAL APPROACHES. BIOL MORYA (1). 1982. 59-61.

FERGUSON J C A COMPARATIVE STUDY OF THE NET METABOLIC BENEFITS DERIVED FROM THE UPTAKE AND RELEASE OF FREE AMINO-ACIDS BY MARINE INVERTEBRATES. BIOL BULL 162. 1982. 1-17.

FUJIWARA A; YOKOKAWA M; HINO A; YASUMASU I INHIBITION BY PALMITOYL COENZYME A OF DYNEIN ATPASE FROM SEA-URCHIN HEMICENTROTUS PULCHERRIMUS SPERMATOZOA. J BIOCHEM 9. 1982. 441-448.

PICARD A; DOREE M INTRA CELLULAR MICRO INJECTION OF ANTI CALMODULIN DRUGS DOES NOT INHIBIT THE CORTICAL REACTION INDUCED BY FERTILIZATION IONOPHORE A-23187 OR INJECTION OF CALCIUM BUFFERS IN SEA-URCHIN PARACENTROTUS LIVIDUS EGGS. DEV GROWTH DIFFER 24. 1982. 155-162.

FUJIWARA A; HINO A; HIRUMA T; YASUMASU I INHIBITION OF RESPIRATION IN SEA-URCHIN SPERMATOZOA FOLLOWING INTERACTION WITH FIXED UNFERTILIZED EGGS 6. PROBABLE DIFFERENCE BETWEEN THE SPECIES IN THE MECHANISM FOR THE FIXED EGG INDUCED INHIBITION OF SPERM RESPIRATION. DEV GROWTH DIFFER 24. 1982. 145-154.

YAMADA Y; AKETA K PURIFICATION AND CHARACTERIZATION OF TRYPSIN-LIKE ENZYME OF SPERM OF THE SEA-URCHIN *HEMICENTROTUS PULCHERRIMUS*. DEV GROWTH DIFFER 24. 1982. 125-134.

ANISIMOV A P MORPHOLOGICAL AND CYTOCHEMICAL CHARACTERISTICS OF THE ALIMENTARY CANAL EPITHELIUM OF THE SAND-DOLLAR *SCAPHECHINUS GRISEUS ECHINODERMATA ECHINOIDEA CLYPEASTEROIDA*. BIOL MORYA (1). 1982. 28-34.

LEIBSON N L AN UNUSUAL WAY OF REGENERATION OF THE INTESTINAL EPITHELIUM DURING SEASONAL REARRANGEMENT OF THE INTESTINE IN THE HOLOTHURIAN *STICHOPUS JAPONICUS* POSSIBILITY OF THE EXTERNAL CAMBIUM. ARKH ANAT GISTOL EMBRIOL 82. 1982. 74-80.

MOTOKAWA T FACTORS REGULATING MECHANICAL PROPERTIES OF HOLOTHURIAN DERMIS. J EXP BIOL 99. 1982. 29-41.

KISHIMOTO T; CLARK T G; KONDO H K; SHIRAI H; KANATANI H INHIBITION OF STARFISH OOCYTE MATURATION BY SOME INHIBITORS OF PROTEOLYTIC ENZYMES. GAMETE RES 5. 1982. 11-18.

SCHEIBLING R E; LAWRENCE J M DIFFERENCES IN REPRODUCTIVE STRATEGIES OF MORPHS OF THE GENUS *ECHINASTER ECHINODERMATA ASTEROIDEA* FROM THE EASTERN GULF OF MEXICO. MAR BIOL 70. 1982. 51-62.

PAIN S L; TYLER P A; GAGE J D THE REPRODUCTIVE BIOLOGY OF *HYMENASTER MEMBRANACEUS* FROM THE ROCKALL TROUGH NORTHEAST ATLANTIC OCEAN WITH NOTES ON *HYMENASTER GENNAEUS*. MAR BIOL 70. 1982. 41-50.

GRULA J W; HALL T J; HUNT J A; GIUGNI T D; GRAHAM G J; DAVIDSON E H; BRITTEN R J SEA-URCHIN DNA SEQUENCE VARIATION AND REDUCED INTERSPECIES DIFFERENCES OF THE LESS VARIABLE DNA SEQUENCES. EVOLUTION 36. 1982. 665-676

WELLS D E; BRUSKIN A M; O'BROCHTA D A; RAFF R A PREVALANT RNA SEQUENCES OF MITOCHONDRIAL ORIGIN IN SEA-URCHIN EMBRYOS. DEV BIOL 92. 1982. 557-562.

LANE J M; LAWRENCE J M FOOD FEEDING AND ABSORPTION EFFICIENCIES OF THE SAND-DOLLAR *MELLITA QUINQUESPERFORATA*. ESTUARINE COASTAL SHELF SCI 14. 1982. 421-432.

TAKESHIMA K; NAKANO E RIBOSOMAL PROTEINS OF SEA-URCHIN EGGS 2. TAXONOMICAL DIFFERENCES. MOL GEN GENET 186. 1982. 566-568.

CUTRESS B M; MILLER J E *EOSTICHOPUS ARENESONI* NEW-GENUS NEW-SPECIES *ECHINODERMATA HOLOTHUROIDEA* FROM THE CARIBBEAN. BULL MAR SCI 32. 1982. 715-722.

HIMMELMAN J H; LAVERGNE Y; CARDINAL A; MARTEL G; JALBERT P BROODING BEHAVIOR OF THE NORTHERN SEA-STAR *LEPTASTERIAS POLARIS*. MAR BIOL 68. 1982. 235-240.

GEYS J F 2 SALENIOID ECHINOIDS IN THE DANIAN OF THE MAASTRICHT AREA THE NETHERLANDS. PALAEONTOLOGY 25. 1982. 265-276.

PAUL C R C; COPE J C W A PARABLASTOID FROM THE ARENIG OF SOUTH WALES UK. PALAEONTOLOGY 25. 1982. 499-508.

OSANAI K; KYOZUKA K-I CROSS FERTILIZATION BETWEEN SEA-URCHIN *TEMNOBLEURUS HARDWICKI* EGGS AND OYSTER *CRASSOSTREA GIGAS* SPERMATOZOA. GAMETE RES 5. 1982. 49-60.

SHIRLEY T C; STICKLE W B RESPONSES OF *LEPTASTERIAS HEXACTIS ECHINODERMATA ASTEROIDEA* TO LOW SALINITY 1. SURVIVAL ACTIVITY FEEDING GROWTH AND ABSORPTION EFFICIENCY. MAR BIOL 69. 1982. 147-154.

SHIRLEY T C; STICKLE W B RESPONSES OF *LEPTASTERIAS HEXACTIS ECHINODERMATA ASTEROIDEA* TO LOW SALINITY 2. NITROGEN METABOLISM RESPIRATION AND ENERGY BUDGET. MAR BIOL 69. 1982. 155-164.

KHOTIMCHENKO YU S EFFECT OF ADRENOTROPIC SUBSTANCES ON THE GROWTH AND MATURATION OF OOCYTES OF THE SEA-URCHIN *STRONGYLOCENTROTUS NUDUS*. EXPERIENTIA 38. 1982. 696-697.

JOHNSON C H; EPEL D STARFISH *PISASTER OCHRACEUS* OOCYTE MATURATION AND FERTILIZATION INTRA CELLULAR PH IS NOT INVOLVED IN ACTIVATION. *DEV BIOL* 92. 1982. 461-469.

HOLLAND L Z; GOULD-SOMERO M FERTILIZATION ACID OF SEA-URCHIN *STRONGYLOCENTROTUS PURPURATUS* EGGS EVIDENCE THAT IT IS HYDROGEN ION NOT CARBON DI OXIDE *DEV BIOL* 92. 1982. 549-552.

PRESNOV E V; ISAEVA V V SPATIAL REARRANGEMENTS OF THE EARLY CLEAVAGE OF SEA-URCHIN *STRONGYLOCENTROTUS NUDUS* EGGS IN THE CAPILLARY. *ONTOGENEZ* 13. 1982. 328-332.

BUZNIKOV G A; MANUKHIN B N; RAKIC L; KUDRYASHOVA N I; MNDZHOYAN O L; OVSEPYAN T R; KHROMOV-BORISOV N V GRADIENT OF SENSITIVITY TO ANTI TRANSMITTERS IN THE INTACT AND STRATIFIED EMBRYOS OF THE SEA-URCHIN *ARBACIA LIXULA*. *ONTONGENEZ* 13. 1982. 309-313.

NOVIKOVA G P OOGENESIS IN *ASTERIAS AMURENSIS* AND *PATIRIA PECTINIFERA*. *ONTOGENEZ* 13. 1982. 297-303.

SWARUP G; GARBERS D L PHOSPHO PROTEIN PHOSPHATASE ACTIVITY OF SEA-URCHIN *STRONGYLOCENTROTUS PURPURATUS* SPERMATOZOA. *BIOL REPROD* 26. 1982. 953-960.

DURICA D S; CRAIN W R JR ANALYSIS OF ACTIN SYNTHESIS IN EARLY SEA-URCHIN *STRONGYLOCENTROTUS PURPURATUS* DEVELOPMENT. *DEV BIOL* 92. 1982. 428-439.

SARANCHOVA O L; KULAKOVSKII E E EFFECT OF ENVIRONMENTAL SALINITY ON VARIOUS DEVELOPMENT STAGES OF THE SEA-STAR *ASTERIAS RUBENS* AND MUSSEL *MYTILUS EDULIS*. *BIOL MORYA* (1). 1982. 34-39.

BIRKELAND C TERRESTRIAL RUNOFF AS A CAUSE OF OUTBREAKS OF *ACANTHASTER PLACI* *ECHINODERMATA ASTEROIDEA*. *MAR BIOL* 69. 1982. 175-186.

YOUNG C M; CHIA F-S FACTORS CONTROLLING SPATIAL DISTRIBUTION OF THE SEA-CUCUMBER *PSOLUS CHITONOIDES* SETTLING AND POST SETTLING BEHAVIOR. *MAR BIOL* 69. 1982. 195-206.

VANBLARICOM G R EXPERIMENTAL ANALYSES OF STRUCTURAL REGULATION IN A MARINE SAND COMMUNITY EXPOSED TO OCEANIC SWELL. *ECOL MONOGR* 52. 1982. 283-306. (AST)

HENDLER G; MEYER D L AN ASSOCIATION OF A POLYCHAETE *BRANCHIOSYLLIS EXILIS* WITH AN OPHIUROID *OPHIOCOMA ECHINATA* IN PANAMA. *BULL MAR SCI* 32. 1982. 736-744.

HINKLEY R E; CHAMBERS E L STRUCTURAL CHANGES IN DIVIDING SEA-URCHIN *LYTECHINUS VARIEGATUS* EGGS INDUCED BY THE VOLATILE ANESTHETIC HALOTHANE. *J CELL SCI* 55. 1982. 327-340.

KLIKUSHIN V G CRINOIDS OF THE GENUS *PERCEVALICRINUS*. *PALEONTOL ZH* (4). 1981. 81-90.

WATTS S A; LAWRENCE J M EFFECT OF STARVATION ON ENZYME ACTIVITIES AND NUTRIENT STORES IN THE PYLORIC CECA OF *ECHINASTER* SP *ECHINODERMATA ASTEROIDEA*. *COMP BIOCHEM PHYSIOL B COMP BIOCHEM* 72. 1982. 461-464.

LAWRENCE J M; GUILLE A ORGANIC COMPOSITION OF TROPICAL POLAR AND TEMPERATE WATER ECHINODERMS. *COMP BIOCHEM PHYSIOL B COMP BIOCHEM* 72. 1982. 283-288.

TAKEISHIMA K; NAKANO E RIBOSOMAL PROTEINS OF SEA-URCHIN *PSEUDOCENTROTUS DEPRESSUS* EGGS 1. CHARACTERIZATION OF CYTOPLASMIC RIBOSOMAL PROTEINS. *CELL DIFFER* 11. 1982. 229-234.

FARINA F; MARTINEZ-UTRILLA R; PAREDES M C POLY CYCLIC HYDROXY QUINONES I. PREPARATION OF ACETYLHYDROXY NAPHTHAZARINS BY PHOTO FRIES REARRANGEMENT A CONVENIENT SYNTHESIS OF SPINOCHROME A. *TETRAHEDRON* 38. 1982. 1531-1537.

TUFARO F; BRANDHORST B P RESTRICTED EXPRESSION OF PATERNAL GENES IN SEA-URCHIN INTERSPECIES HYBRIDS. *DEV BIOL* 92. 1982. 209-220.

RAINER S F TROPHIC STRUCTURE AND PRODUCTION IN THE MACRO BENTHOS OF A TEMPERATE AUSTRALIAN ESTUARY. *ESTUARINE COASTAL SHELF SCI* 15. 1982. 423-442. (ECHINOIDEA)

WALKER M M REPRODUCTIVE PERIODICITY IN *EVECHINUS CHLOROTICUS* IN THE HAURAKI GULF NEW-ZEALAND. *N Z J MAR FRESHWATER RES* 16. 1982. 19-26.

SEVALJEVIC L; PETROVIC M; KONSTANTINOVIC M; KRTOLICA K COMPARATIVE STUDIES OF RAT LIVER AND SEA-URCHIN EMBRYO NUCLEAR MATRICES PARTIAL FRACTIONATION AND PROTEIN KINASE ACTIVITY DISTRIBUTION. *J CELL SCI* 55. 1982. 189-198.

TABOR P S; DEMING J W; OHWADA K; COLWELL R R ACTIVITY AND GROWTH OF MICROBIAL POPULATIONS IN PRESSURIZED DEEP SEA SEDIMENT AND ANIMAL GUT SAMPLES. *APPL ENVIRON MICROBIOL* 44. 1982. 413-422. (HOLO)

PETTIT G R; HASLER J A; PAULL K D; HERALD C L ANTI NEOPLASTIC AGENTS 76. THE SEA-URCHIN *STRONGYLOCENTROTUS DROEBACHIENSIS*. *J NAT PROD* 44. 1981. 701-704.

JOHNSON-WINT B; HOLLIS S A RAPID IN-SITU DNA ASSAY FOR DETERMINING CELL NUMBER IN CULTURE AND TISSUE. *ANAL BIOCHEM* 122. 1982. 338-344. (ECHINOIDEA)

CLARK A M SOME OPHIUROIDEA FROM THE SEYCHELLES ISLANDS AND INHACA MOZAMBIQUE ECHINODERMATA. *REV ZOOL AFR* 94. 1980. 533-558.

SUZUKI N; HOSHI M; NOMURA K; ISAKA S RESPIRATORY STIMULATION OF SEA-URCHIN SPERMATOZOA BY EGG EXTRACTS EGG JELLY EXTRACTS AND EGG JELLY PEPTIDES FROM VARIOUS SPECIES OF SEA-URCHINS TAXONOMICAL SIGNIFICANCE. *COMP BIOCHEM PHYSIOL A COMP PHYSIOL* 72. 1982. 489-496.

CHAUVEL J NEW DATA ON SOME DIPLOPORITE CYSTOIDS ECHINODERMS OF THE ARMORICAN PALEOZOIC. *BULL SOC GEOL MINERAL BRETAGNE SER C* 12. 1980. 1-28.

GORDON H; FRANZ D R THE BIOLOGY OF A BROODING SEA-STAR *LEPTASTERIAS TENERA* IN BLOCK ISLAND SOUND RHODE-ISLAND USA. *BIOL BULL* 162. 1982. 273-289.

HESS H A NEW STARFISH MESOTREMASTER-ZBINDENI NEW-SPECIES AND OTHER ECHINODERMS FROM THE MIDDLE OXFORDIAN OF REUCHENETTE JURA OF BERN SWITZERLAND. *ECLOGAE GEOL HELV* 74. 1981. 681-700.

HO J-S COPEPODA ASSOCIATED WITH ECHINODERMS OF JAPAN. *ANNU REP SADO MAR BIOL STN NIIGATA UNIV* (12). 1982. 33-62.

MCCAIG C D; ROBINSON K R THE DISTRIBUTION OF LECTIN RECEPTORS ON THE PLASMA MEMBRANE OF THE FERTILIZED SEA-URCHIN *STRONGYLOCENTROTUS PURPURATUS* EGG DURING 1ST AND 2ND CLEAVAGE. *DEV BIOL* 92. 1982. 197-202.

EYLERS J P ION DEPENDENT VISCOSITY OF HOLOTHURIAN BODY WALL AND ITS IMPLICATIONS FOR THE FUNCTIONAL MORPHOLOGY OF ECHINODERMS. *J EXP BIOL* 99. 1982. 1-8.

YAMAGATA A STUDIES ON REPRODUCTION IN THE HERMAPHRODITIC SEA-STAR *ASTERINA MONOR* THE FUNCTIONAL MALE GONADS OVO TESTES. *BIOL BULL* 162. 1982. 449-456.

KHOTIMCHENKO Y S EFFECT OF NORADRENALINE DOPAMINE AND ADRENOLYTICS ON GROWTH AND MATURATION OF THE SEA-URCHIN *STRONGYLOCENTROTUS NUDUS*. *INT J INVERTEBR REPROD* 4. 1982. 369-374.

MENZOROVA N I; RASSKAZOV V A THE SUBSTRATE SPECIFICITY OF CALCIUM DEPENDENT MAGNESIUM DEPENDENT DNASE FROM SEA-URCHIN *STRONGYLOCENTROTUS INTERMEDIUS* EMBRYOS. *BIOKHIMIYA* 46. 1981. 872-880.

SHOWMAN R M; WELLS D E; ANSTROM J; HURSH D A; RAFF R A MESSAGE SPECIFIC SEQUESTRATION OF MATERNAL HISTONE MESSENGER RNA IN THE SEA-URCHIN EGG. *PROC NATL ACAD SCI U S A* 79. 1982. 5944-5947.

ESTES J A; JAMESON R J; RHODE E B ACTIVITY AND PREY ELECTION IN THE SEA OTTER ENHYDRA LUTRIS INFLUENCE OF POPULATION STATUS ON COMMUNITY STRUCTURE. AM NAT 120. 1982. 242-258. (ECHINOIDEA)

GUERINOT M L; WEST P A; LEE J V; COLWELL R R VIBRIO DIAZOTROPHICUS NEW-SPECIES A MARINE NITROGEN FIXING BACTERIUM. INT J SYST BACTERIOL 32. 1982. 350-357. (ECHINOIDEA)

GEYS J F ARBACIOID ECHINOIDS FROM THE MAASTRICHTIAN UPPER CRETACEOUS OF BELGIUM AND THE NETHERLANDS. PALAEONTOL Z 55. 1981. 257-270.

GRYGIER M J DENDROGASTER CRUSTACEA ASCOTHORACIDA FROM CALIFORNIA USA SEA-STAR PARASITES COLLECTED BY THE ALBATROSS. PROC CALIF ACAD SCI 42. 1982. 443-454.

OPPENHEIMER S B; MEYER J T CARBOHYDRATE SPECIFICITY OF SEA-URCHIN STRONGYLO-CENTROTUS PURPURATUS BLASTULA ADHESION COMPONENT. EXP CELL RES 139. 1982. 451-455.

SPIEGEL M; BURGER M M CELL ADHESION DURING GASTRULATION A NEW APPROACH. EXP CELL RES 139. 1982. 377-382.

HERLANDS L; ALLFREY V G; POCCIA D TRANSLATIONAL REGULATION OF HISTONE SYNTHESIS IN THE SEA-URCHIN STRONGYLOCENTROTUS PURPURATUS. J CELL BIOL 94. 1982. 219-223.

GLABE C G; GRABEL L B; VACQUIER V D; ROSEN S D CARBOHYDRATE SPECIFICITY OF SEA-URCHIN STRONGYLOCENTROTUS PURPURATUS SPERM BINDIN A CELL SURFACE LECTIN MEDIATING SPERM EGG ADHESION. J CELL BIOL 94. 1982. 123-128.

RAPPAPORT R CYTOKINESIS THE EFFECT OF INITIAL DISTANCE BETWEEN MITOTIC APPARATUS AND SURFACE ON THE RATE OF SUBSEQUENT CLEAVAGE FURROW PROGRESS. J EXP ZOOL 221. 1982. 399-404.

DROZDOV A L; PODGORNAYA O I ACTIN CONTAINING EXTRACTS FROM THE SPERMATOZOA OF STRONGYLOCENTROTUS INTERMEDIUS. ONTOGENEZ 13. 1982. 55-61.

ISAEVA V V RADIALIZATION OF THE LARVAL SKELETON IN THE SEA-URCHIN STRONGYLO-CENTROTUS NUDUS EMBRYOS TREATED WITH PAPAIN. ONTOGENEZ 12. 1981. 639-643.

MAEKAWA S; SAKAI H INHIBITOR PROTEIN OF ACTIN POLYMERIZATION FROM STARFISH ASTERIAS AMURENSIS SPERM HEAD SOME PHYSICOCHEMICAL PROPERTIES AND ITS ACTION ON ACTIN POLYMERIZATION. BIOMED RES 3. 1982. 54-60.

MAEKAWA S; SAKAI H INHIBITOR PROTEIN OF ACTIN POLYMERIZATION FROM STARFISH ASTERIAS AMURENSIS SPERM HEAD PURIFICATION AND LOCALIZATION. BIOMED RES 3. 1982. 46-53.

COSSON M P; GULIK A DESCRIPTION OF THE MITOCHONDRIA AXONEME JUNCTION IN SEA-URCHIN ARBACIA LIXULA SPERMATOZOA PRESENCE OF A FLAGELLAR NECKLACE. J ULTRASTRUCT RES 79. 1982. 47-57.

ANDREEVA T F; ANDREEVA L F TRITIUM LABELED THYMIDINE INCORPORATION INTO DNA FRACTIONS WITH HIGHLY REPETITIVE MODERATELY REPETITIVE AND UNIQUE NUCLEOTIDE SEQUENCES IN THE SEA-URCHIN GENOME. BIOKHIKIYA 47. 1982. 385-389.

RAMM E I; OSIPOVA T N; VOROB'EV V I CONFORMATIONAL CHARACTERISTICS OF H-1 HISTONES OF CALF THYMUS AND SEA-URCHIN SPERM. BIOFIZIKA 27. 1982. 154-156.

DELGADO N M; REYES R; HUACUJA L; CARRANCO A; MERCHANT H; ROSADO A DECONDENSATION OF HUMAN SPERM NUCLEI BY GLYCOSAMINO GLYCAN SULFATE FROM SEA-URCHIN TOXOPNEUSTES ROSEUS EGG. J EXP ZOOL 224. 1982. 457-460.

POPOV A M; ROVIN YU G; LIKHATSKAYA G N; ANISIMOV M M; RUDNEV V S EFFECT OF THE TRI TERPENE GLYCOSIDE HOLOTHURIN A ON BI LAYER LIPID STEROL MEMBRANES. DOKL BIOPHYS 264. 1982. 103-106.

KUNKLE M; ABOUKARSH N; SILVERS S. THE SOLENOID TO SUPERBEAN TRANSITION IN SEA-URCHIN STRONGYLOCENTROTUS PURPURATUS SPERM NUCLEI. J. CELL BIOL. 95. 1982. 176A.

LEE Y Z; HAARD N F EVALUATION OF THE GREEN SEA-URCHIN *STRONGYLOCENTROTUS DROEBACHIENSIS* GONADS AS A FOOD SOURCE. CAN INST FOOD SCI TECHNOL J 15. 1982. 233-235.

KEATS D W; SOUTH G R; STEELE D H EXPERIMENTAL ASSESSMENT OF THE AFFECT OF *STRONGYLOCENTROTUS DROEBACHIENSIS* ON SUBTIDAL ALGAL COMMUNITIES IN NEWFOUNDLAND CANADA. BR PHYCOL J 17. 1982. 234-235.

KITCHING J A; THAIN V M THE ECOLOGICAL IMPACT OF THE SEA-URCHIN *PARACENTROTUS LIVIDUS* IN LOUGH INE IRELAND. PHILOS TRANS R SOC LOND B BIOL SCI 300. 1982. 513-552.

LEE H C; FORTE J G; EPEL D THE USE OF FLUORESCENT AMINES FOR THE MEASUREMENT OF INTRA CELLULAR PH APPLICATIONS IN LIPOSOMES GASTRIC MICROSOMES AND SEA-URCHIN GAMETES. INTRACELLULAR PH: 1982. P135-160.

KANANISHI N; WATANABE M; KINJO Y; SHIROYA T RADIATION RESISTANCE IN THE CELLULAR SLIME MOLD 9. A COMPARATIVE STUDY WITH THE CONDENSED CHROMATIN OF SEA-URCHIN SPERM BY ALKALINE ELUTION TECHNIQUE. J RADIAT RES 23. 1982. 72-73.

PAGANO G; ESPOSITO A; BOVE P; DE ANGELIS M; ROTA A; VAMVAKINOS E; GIORDANO G G ABNORMALITIES IN SEA-URCHIN DEVELOPMENT. MUTAT RES 104. 1982. 351-354.

HART H V; RIETMAN E A LAUE X-RAY DIFFRACTION STUDIES OF ECHINOID CALCITE. J ELISHA MITCHELL SCI SOC 96. 1980. 116.

ELDRIDGE P W; EDWARDS N C THE DEVELOPMENT OF *LYTECHINUS* IN THE PRESENCE OF 20-ALPHA HYDROXY CHOLESTEROL A POTENT INHIBITOR OF STEROL SYNTHESIS. J ELISHA MITCHELL SCI SOC 96. 1980. 99.

WOOD G H; PEARSON D R; BELLIS V RELATIONSHIP BETWEEN BENTHIC FAUNA AND SEDIMENTS OF THE INNER CONTINENTAL SHELF OF NORTH-CAROLINA USA. J ELISHA MITCHELL SCI SOC 96. 1980. 114-115.

GILLIES R J INTRA CELLULAR PH AND PROLIFERATION IN YEAST *SACCHAROMYCES CEREVISIAE* *TETRAHYMENA PYRIFORMIS* AND SEA-URCHIN EGGS

INTRACELLULAR PH: 1982. P341-360.

IMAOKA T 3 NEW SPECIES OF THE GENUS *PSEUDOSTICHOPUS* FROM JAPANESE WATERS *HOLOTHURIOIDEA GEPHYROTHURIIDAE*. PUBL SETO MAR BIOL LAB. 1978. 377-386.

BEGG D A; SALMON E EFFECTS OF HYDROSTATIC PRESSURE ON THE STRUCTURAL ORGANIZATION OF ACTIN IN THE SEA-URCHIN *ARBACIA PUNCTULATA* EGG CORTEX. ANAT REC 202. 1982. 14A.

ANSTROM J A; SUMMERS R G MORPHOLOGICAL ANALYSIS OF THE 1ST CLEAVAGE MITOTIC APPARATUS ISOLATED FROM SEA-URCHIN *STRONGYLOCENTROTUS DROEBACHIENSIS* EMBRYOS. ANAT REC 202. 1982. 8A.

CLOUD J G INHIBITION OF 1 METHYL ADENINE INDUCED MATURATION OF ISOLATED STARFISH *PISASTER OCHRACEUS* OOCYTES BY HYDROSTATIC PRESSURE. BIOL REPROD 26 (SUPPL. 1). 1982. 63A.

LOPO A C; GLABE C G; LENNARZ W J; VACQUIER V D SPERM EGG BINDING EVENTS DURING SEA-URCHIN FERTILIZATION ANNALS OF THE NEW YORK ACADEMY OF SCIENCES, VOL. 383. CELL BIOLOGY OF THE TESTIS; 1982. P405-425.

ANDREEVA T F; ANDREEVA L F INCORPORATION OF TRITIUM LABELED THYMIDINE INTO DNA FRACTIONS OF VARIOUS FREQUENCIES OF REPETITION OF NUCLEOTIDE SEQUENCES IN THE GENOME OF THE SEA-URCHIN *STRONGYLOCENTROTUS DROEBACHIENSIS*. BIOCHEMISTRY 47. 1982. 326-329.

FREIDUS D J; SCHLEGEL R A; WILLIAMSON P FERTILIZATION INDUCED FLUIDITY CHANGE IN SEA-URCHIN EGG PLASMA MEMBRANE. *J CELL BIOL.* 95. 1982. 167A.

ERNST S G; PITTMAN D D PROTEIN SYNTHESIS IN SEA-URCHIN *STRONGYLOCENTROTUS PURPURATUS* EMBRYOS AND ISOLATED CELL POPULATIONS. *J CELL BIOL.* 95. 1982. 167A.

KLINGER T S DIGESTIVE ENZYMES FROM THE GUT TISSUES OF 5 SPECIES OF SEA-URCHINS *ECHINODERMATA ECHINOIDEA*. *AM ZOOL* 22. 1982. 904.

DOBSON W E NEURAL MEDIATION OF DISC AUTOTOMY IN OPHIUROIDS *OPHIOPHRAGMUS FILOGRANEUS*. *AM ZOOL* 22. 1982. 904.

DAVIS J P; STEPHENS G C BACTERIA-FREE SAND-DOLLAR *DENDRASTER EXCENTRICUS* LARVAE WITHOUT ANTIBIOTICS NET UPTAKE OF AMINO ACIDS. *AM ZOOL* 22. 1982. 897.

CARROLL E J JR; ENDRESS A G SEA-URCHIN FERTILIZATION ENVELOPE UNCOUPLING OF CORTICAL GRANULE EXOCYTOSIS FROM ENVELOPE ASSEMBLY AND ISOLATION OF AN ENVELOPE INTERMEDIATE FROM *STRONGYLOCENTROTUS PURPURATUS* EMBRYOS. *DEV BIOL* 94. 1982. 252-258.

CRAIN W R JR; DURICA D S; COOPER A D; VAN DOREN K; BUSHMAN F D STRUCTURE AND DEVELOPMENTAL EXPRESSION OF ACTIN GENES IN THE SEA-URCHIN. PEARSON, M. L. AND H. F. EPSTEIN (ED.). MUSCLE DEVELOPMENT: MOLECULAR AND CELLULAR CONTROL. COLD SPRING HARBOR, N. Y. 1982. P97-106.

BROSSUT R CHEMICAL COMMUNICATION AMONG INVERTEBRATES. *BULL SOC ZOOL FR* 197. 1982. 607-618.

O'MELIA A F MORPHOGENETIC EFFECTS OF EVANS BLUE AND ZINC IONS IN EMBRYOS OF *LYTECHINUS VARIEGATUS*. *EXPERIENTIA* 39. 1983. 319-320.

MAGLOTT D R HEAT SHOCK RESPONSE IN THE ATLANTIC SEA-URCHIN *ARBACIA PUNCTULA*. *EXPERIENTIA* 39. 1983. 268-270.

WHITAKER M J; STEINHARDT R A EVIDENCE IN SUPPORT OF THE HYPOTHESIS OF AN ELECTRICALLY MEDIATED FAST BLOCK TO POLY SPERMY IN SEA-URCHIN EGGS. *DEV BIOL* 95. 1983. 244-248.

NAKAGAWA H; KIMURA A; TAKEI M; ENDO K HISTAMINE RELEASE FROM RAT MAST CELLS INDUCED BY AN EXTRACT FROM THE SEA-URCHIN *TOXOPNEUSTES PILEOLUS*. *TOXICON* 20. 1982. 1095-1097.

MACURDA D B JR; MAPES R H THE STRATIGRAPHIC OCCURRENCE OF PENNSYLVANIAN BLASTOIDS. *J PALEONTO* 56 (2 SUPPL.). 1982. 17.

KELLY S M ORIGIN OF THE CRINOID ORDERS DISPARIDA AND CLADIDA POSSIBLE INADUNATE CUP PLATE HOMOLOGIES. *J PALEONTO* 56 (2 SUPPL.). 1982. 14-15.

DERSTLER K RATES OF MORPHOLOGICAL CHANGE IN EARLY PALEOZOIC ECHINODERMS. *J PALEONTO* 56 (2 SUPPL.). 1982. 8.

ZALENSKY A O; TUTUROVA K F; ODINTSOVA N A; ZALENSKAYA I A PARTIAL SALT DIS-SOCIATION OF CHROMATIN FROM SPERM OF SOME MARINE INVERTEBRATES. *STUD BIOPHYS* 87. 1982. 137-138. (ECHINOIDEA)

ZALENSKAYA I A; ZELENSKAYA E O; VOROB'EV VI SPECIFIC FEATURES OF STRUCTURAL ORGANIZATION OF CHROMATIN FROM SPERM OF THE HOLOTHURIAN *CUCUMARIA JAPONICA*. *STUD BIOPHYS* 87. 1982. 159-160.

TYLER P A; PAIN S L OBSERVATIONS OF GAMETOGENESIS IN THE DEEP SEA ASTEROIDS *PARAGONASTER SUBTILIS* AND *PSEUDARCHASTER PARELII* *PHANEROZONIA GONIASTERIDAE*. *INT J INVERTEBR REPROD* 5. 1982. 269-272.

GLABE C G; VACQUIER V D; LENNARZ W J SPERM SURFACE COMPONENTS INVOLVED IN SEA-URCHIN FERTILIZATION. *SYMPOSIA ON MOLECULAR AND CELLULAR BIOLOGY*, NEW SERIES, VOL. 3. 1982. P821-832.

GLABE C G; LENNARZ W J ISOLATION OF A HIGH MOLECULAR WEIGHT GLYCO CONJUGATE DERIVED FROM THE SURFACE OF STRONGYLOCENTROTUS PURPURATUS EGGS THAT IS IMPLICATED IN SPERM ADHESION. SYMPOSIA ON MOLECULAR AND CELLULAR BIOLOGY, NEW SERIES, VOL. 3. 1982. P61-68.

ROSSIGNOL D P; ROSCHELLE A J; LENNARZ W J SPERM EGG BINDING IDENTIFICATION OF A SPECIES SPECIFIC SPERM RECEPTOR FROM EGGS OF STRONGYLOCENTROTUS PURPURATUS. SYMPOSIA ON MOLECULAR AND CELLULAR BIOLOGY, NEW SERIES, VOL. 3. 1982. P21-32.

BERTOLINI D R; WATANABE M; TURNER R S JR PROTEASE INSENSITIVE SEA-URCHIN STRONGYLOCENTROTUS PURPURATUS EMBRYO CELL ADHESIONS BECOME PROTEASE SENSITIVE IN THE PRESENCE OF AZIDE OR CYTOCHALASIN B. SYMPOSIA ON MOLECULAR AND CELLULAR BIOLOGY, NEW SERIES, VOL. 3. 1982. P1-8.

KUNKLE M; ABOUKARSH N FACTORS INVOLVED IN COMPACTION OF SEA-URCHIN STRONGYLOCENTROTUS PURPURATUS SPERM NUCLEAR CHROMATIN. ANAT REC 202. 1982. 105A.

WILLIAMS A H EFFECTS OF HURRICANE ALLEN ON BACK REEF POPULATIONS OF JAMAICA WEST-INDIES. AM ZOOL 22. 1982. 858. (ECHINOIDEA)

PUFFER H W; HOSE J E; LIGUORI V M A METHOD FOR EVALUATING POLLUTANT TERATOGENICITY AND GENO TOXICITY USING FRESH WATER OR MARINE EMBRYOS. FED PROC 42. 1983. ABSTRACT 351. (ECHINOIDEA)

NAKAGAWA H; KIMURA A PARTIAL PURIFICATION AND CHARACTERIZATION OF A TOXIC SUBSTANCE FROM PEDICELLARIAE OF THE SEA-URCHIN TOXOPNEUSTES PILEOLUS. JPN J PHARMACOL 32. 1982. 966-968.

TANAKA K; OBATA I SELECTED ECHINOID FOSSILS FROM THE MIYAKO GROUP LOWER CRETACEOUS NORTHEAST HONSHU JAPAN. BULL NATL SCI MUS SER C 8. 1982. 117-143.

OSIPOVA T N; BOETTGER M; VON MICKWITZ C-U; SCHERNECK S ROLE OF HISTONE H-2B FROM SEA-URCHIN STRONGYLOCENTROTUS INTERMEDIUS SPERM IN ASSOCIATION OF RECONSTITUTED MINI CHROMOSOMES. STUD BIOPHYS 87. 1982. 147-148.

ZALENSKAYA I A; ZALENSKY A O; VOROB'EV V I RECONSTITUTED CORE PARTICLES THAT CONTAIN HISTONE H-2B FROM SEA-URCHIN SPERM ASSEMBLE INTO REGULAR HIGHER ORDER STRUCTURES. STUD BIOPHYS 87. 1982. 145-146.

TYLER P A; GRANT A; PAIN S L; GAGE J D IS ANNUAL REPRODUCTION IN DEEP SEA ECHINODERMS A RESPONSE TO VARIABILITY IN THEIR ENVIRONMENT? NATURE 300. 1982. 747-750.

DOWNEY M E EVOPLOSOAMA VIRGO NEW-SPECIES A NEW GONIASTERID STARFISH ECHINODERMATA ASTEROIDEA FROM THE GULF OF MEXICO PROC BIOL SOC WASH 95. 1982. 772-773.

COWAN M E; GOMEX E D A PRELIMINARY NOTE ON THE REPRODUCTIVE PERIODICITY OF THE SEA-CUCUMBER HOLOTHURIA SCABRA. KALIKASAN 11. 1982. 175-178.

LEE H-T EFFECTS OF TEMPERATURE AND FOOD CONCENTRATION ON SWIMMING OF LARVAE OF AN ECHINODERM. AM ZOOL 22. 1982. 872.

WALKER C W; FINEBLIT J REPRODUCTIVE ANATOMY AND INTERACTIONS BETWEEN ADULT AND EMBRYONIC TISSUES DURING BROODING IN AMPHIPHOLIS SQUAMATA ECHINODERMATA OPHIUROIDEA. AM ZOOL 22. 1982. 861.

MANAHAN D T; DAVIS J P; STEPHENS G C BACTERIA-FREE SEA-URCHIN STRONGYLOCENTROTUS PURPURATUS LARVAE SELECTIVE UPTAKE OF NEUTRAL AMINO ACIDS FROM SEA WATER. SCIENCE 220. 1983. 204-206.

MAXSON R; MOHUN T; GORMEZANO G; CHILDS G; KEDES L DISTINCT ORGANIZATIONS AND PATTERNS OF EXPRESSION OF EARLY AND LATE HISTONE GENE SETS IN THE SEA-URCHIN STRONGYLOCENTROTUS PURPURATUS. NATURE 301. 1983. 120-125.

KIEHART D P MICRO INJECTION OF ECHINODERM EGGS APPARATUS AND PROCEDURES METHODS IN CELL BIOLOGY, VOL. 25. P13-32.

SHIGEI M ECHINOID FAUNA OF THE SOUTHEASTERN COAST OF THE IZU PENINSULA CENTRAL JAPAN MEM NATL SCI MUS (15). 1982. 195-202.

BRITO I M FOSSIL ECHINOIDS OF BRAZIL 2. HOLECTIPOIDS AND CASSIDULOIDS. AN ACAD BRAS CIENC 53. 1981. 513-528.

COFFARO K A MEMORY AND SPECIFICITY IN THE SEA-URCHIN LYTECHINUS PICTUS. DEVELOPMENTS IN IMMUNOLOGY, VOL. 10. 1980. P77-80.

BOTCHAN P M; DAYTON A I A SPECIFIC REPLICATION ORIGIN IN THE CHROMOSOMAL RIBOSOMAL DNA OF LYTECHINUS VARIEGATUS. NATURE 299. 1982. 453-456.

SMITH A B; GHIOLD J ROLES FOR HOLES IN SAND-DOLLARS ECHINOIDEA A REVIEW OF LUNULE FUNCTION AND EVOLUTION. PALEOBIOLOGY 8. 1982. 242-253.

KUMAZAKI T; Hori H; OSAWA S THE NUCLEOTIDE SEQUENCE OF 5S RIBOSOMAL RNA FROM A SEA-ANEMONE ANTHOPLERA JAPONICA. FEBS LETT 146. 1982. 307-310.

KHOTIMCHENKO YU S EFFECT OF ADRENOTROPIC AND CHOLINOTROPIC PREPARATIONS ON GROWTH MATURATION AND SPAWNING OF THE SEA-URCHIN STRONGYLOCENTROTUS NUDUS. SOV J MAR BIOL 8. 1982. 105-111.

ANISIMOV A P MORPHOLOGICAL AND CYTOCHEMICAL CHARACTERISTICS OF DIGESTIVE TRACT EPITHELIA OF THE HEART SEA-URCHIN ECHINOCARDIUM CORDATUM. SOV J MAR BIOL 8. 1982. 85-93.

HAMMOND L S MANAGEMENT CRITERIA FOR BECHE-DE-MER FISHERIES A MODEL FOR TESTING. PAC SCI CONGR PROC 15. 1983. 93.

FLETCHER W J INTERACTIONS BETWEEN SUBTIDAL ALGAE AND INVERTEBRATE GRAZERS. PAC SCI CONGR PROC 15. 1983. 73. (ECHINOIDEA)

YAMAZATO K ZOO GEOGRAPHY ECOLOGY AND SOME CONSERVATION PROBLEMS OF A HIGH LATITUDE CORAL REEF COMMUNITY OF OKINAWA JAPAN. PAC SCI CONGR PROC 15. 1983. 260. (AST)

SUZUKI Y; NAKAMURA R; NAKAHARA M; UEDA T METABOLISM OF RADIOACTIVE COBALT IN PRAWN AND SEA-CUCUMBER. J RADIAT RES 23. 1982. 13.

MARTINELL J ECHINOID BIO EROSION FROM THE PLIOCENE OF NORTHEAST SPAIN. GEOBIOS 15. 1982. 249-254.

SAXENA R K; KUMAR S; SINGH I B; SINGH S K HOLOTHUROIDS FROM JURASSIC TETHYAN SEDIMENTS MALLA JOHAR AREA KUMAON HIMALAYA UTTAR PRADESH INDIA. CURR SCI 51. 1982. 357-358.

KANATANI H ENDOCRINE ASPECTS OF REPRODUCTION IN STARFISH. GEN COMP ENDOCRINOL 46. 1982. 353-354.

BOITEUX A GLYCOLYSIS IN FERTILIZED EGGS OF PARACENTROTUS LIVIDUS. HOPPE-SEYLER'S Z PHYSIOL CHEM 363. 1982. 540-541.

HAMAGUCHI Y; KURIYAMA R ASTER FORMATION IN SAND-DOLLAR SCAPHECHINUS MIRABILIS EGGS BY MICRO INJECTION OF CALCIUM BUFFERS AND CENTRIOLAR COMPLEXES ISOLATED FROM STARFISH ASTERINA PECTINIFERA SPERM. EXP CELL RES 141. 1982. 450-454.

SIBILEVA M A; SALNIKOVA T A; IVANOV G S; RAMM E I; FRISMAN E V; VOROB'EV V I HYDRODYNAMIC AND OPTICAL PROPERTIES OF DNA COMPLEXES WITH HISTONES H-1 FROM CALF THYMUS AND SEA-URCHIN SPERM. STUD BIOPHYS 87. 1982. 133-134.

ARENKT Y A; BROADHEAD T W HARRELLICRINUS NEW-NAME FOR STRIMPLECRINUS ARNDT 1981 NOT BROADHEAD 1981. J PALEONTOL 56. 1982. 1234.

KANATANI H NONSTEROIDAL MEDIATION OF OOCYTE MATURATION. ADVANCES IN THE BIO-SCIENCES, VOL. 34. 1982. P161-170. (AST)

BROKAW C J MODELS FOR OSCILLATION AND BEND PROPAGATION BY FLAGELLA. PROKARYOTIC AND EUKARYOTIC FLAGELLA; 1982. P313-338. (ECHINOIDEA)

GIBBONS I R SLIDING AND BENDING IN SEA-URCHIN SPERM FLAGELLA. SYMPOSIA OF THE SOCIETY FOR EXPERIMENTAL BIOLOGY, NO. 35. PROKARYOTIC AND EUKARYOTIC FLAGELLA; 1982. P225-288. (ECHINOIDEA)

NAKAMURA H; KOBAYASHI J; HIRATA Y SEPARATION OF MYCOSPORINE LIKE AMINO-ACIDS IN MARINE ORGANISMS USING REVERSED PHASE HIGH PERFORMANCE LIQUID CHROMATOGRAPHY. J CHROMATOGR 250. 1982. 113-118.

PLAZA H; CAPRILES V A REPORT OF AN ANOMALOUS HOLOTHURIAN FROM PUERTO RICAN WATERS. CARIBB J SCI 18. 1982. 41-42.

SMIRNOVA G P; KOCHETKOV N K A SIALO GLYCO LIPID CONTAINING N ACETYL GALACTOSAMINE FROM THE HEPATO PANCREAS OF THE STARFISH *EVASTERIAS RETIFERA*. SOV J BIOORG CHEM 8. 1982. 47-53.

POSAKONY J W; DAVIDSON E H DEVELOPMENTAL EXPRESSION OF SEA-URCHIN REPETITIVE SEQUENCE FAMILIES. 1981. P236-237.

HALL T J; BRITTON R J DISTANT HOMOLOGY OR NOISE . CARNEGIE INSTITUTION OF WASHINGTON YEAR BOOK, 1981. P235. (ECHINOIDEA)

GRULA J W; ROBERTS J W; LASKY L A; LEV Z; DAVIDSON E H; BRITTON R J DNA SEQUENCE EVOLUTION AROUND A SEA-URCHIN GENE. 1981. P234.

ROBERTS J W; GRULA J W; THOMAS T L; DAVIDSON E H; BRITTON R J SEQUENCE POLYMORPHISM IN REGIONS SURROUNDING STRUCTURAL GENES. CARNEGIE INSTITUTION OF WASHINGTON YEAR BOOK. 1981. P233-234.

THOMAS T L; PRICE M P; MCALLISTER L B; VILLANUEVA J S; DAVIDSON E H EXPRESSION OF ACTIN GENES IN THE SEA-URCHIN EMBRYO. CARNEGIE INSTITUTION OF WASHINGTON YEAR BOOK. 1981. P243.

SCHELLER R H; MCALLISTER L B; CRAIN W R JR; DURICA D S; POSAKONY J W; THOMAS T L; DAVIDSON E H THE SEA-URCHIN *STRONGYLOCENTROTUS PURPURATUS* ACTIN GENE SET. CARNEGIE INSTITUTION OF WASHINGTON YEAR BOOK. 1981. P242-243.

PRICE D H; DAVIDSON E H TRANSCRIPTION IN ISOLATED SEA-URCHIN NUCLEI. CARNEGIE INSTITUTION OF WASHINGTON YEAR BOOK. 1981. P242.

THOMAS T L; DAVIDSON E H A TRANSCRIPTION UNIT CODING FOR MULTIPLE POLY ADENYLIC-ACID CONTAINING RNA IN THE SEA-URCHIN. CARNEGIE INSTITUTION OF WASHINGTON YEAR BOOK. 1981. P241-242.

CABRERA C V; LEE J J; MOORE J G; DAVIDSON E H CONTROL OF MESSENGER RNA PREVALENCE IN THE SEA-URCHIN EMBRYO 2. NUCLEAR RNA. CARNEGIE INSTITUTION OF WASHINGTON YEAR BOOK. 1981. P241.

ELLISON J W; CABRERA C V; MOORE J G; DAVIDSON E H CONTROL OF MESSENGER RNA PREVALENCE IN THE SEA-URCHIN EMBRYO 1. CYTOPLASMIC RNA. CARN. INST. WASH. YBK. 240-241.

BRANDHORST B P; FLYTZANIS C N; DAVIDSON E H REGULATION OF PREVALENT MESSENGER RNA DURING SEA-URCHIN *STRONGYLOCENTROTUS PURPURATUS* EMBRYONIC DEVELOPMENT. CARNEGIE INSTITUTION OF WASHINGTON YEAR BOOK. 1981. P240.

FLYTZANIS C N; DAVIDSON E H SEA-URCHIN EMBRYO SPECIFIC EXPRESSION OF RNA SEQUENCES. CARNEGIE INSTITUTION OF WASHINGTON YEAR BOOK. 1981. P239.

XIN J-H; BRANDHORST B P; DAVIDSON E H EXPRESSION OF CLONED SEA-URCHIN GENES IN EMBRYO AND ADULT CELLS. 1981. P238-239.

DAVIDSON E H; HOUGH-EVANS B R; BRITTON R J MOLECULAR BIOLOGY OF THE SEA-URCHIN EMBRYO. SCIENCE 217. 1982. 17-26.

OGURO M; NAGANO H INHIBITION OF EUKARYOTIC DNA POLYMERASE ALPHA BY POLY DEOXY NUCLEOTIDES. J BIOCHEM 9. 1982. 599-602.

FUENTES H R FEEDING HABITS OF *GRAUS NIGRA* LABRIDAE IN COASTAL WATERS OF IQUIQUE IN NORTHERN CHILE. JPN J ICHTHYOL 29. 1982. 95-98.(AST, HOLO, ECH)

DAFNI J SKELETAL DEFORMATIONS IN SEA-URCHINS DUE TO POLLUTION IN THE GULF OF ELAT RED SEA. ISR J ZOOL 30. 1981. 107-108.

BOUCHARD P; COSSON M-P MOLECULAR BASIS OF SPERM MOVEMENT. ANN ENDOCRINOL 42. 1981. 398-406.

ELLIOTT D K AN EDRIOSTEROID FROM THE FOREKNOBS FORMATION UPPER DEVONIAN OF WEST VIRGINIA USA. PROC W VA ACAD SCI. 53. 1981. 569-573.

UTINOMI H A NEW PEDUNCULATE CIRRIPED ON SPINES OF THE SEA-URCHIN COELOPLEURUS MACULATUS. PUBL SETO MAR BIOL LAB 25. 1980. 115-118.

MOODY W J JR THE EFFECT OF DECREASED INTRA CELLULAR PH ON THE ELECTRICAL PROPERTIES OF INVERTEBRATE MUSCLE FIBERS AND OOCYTES. INTRACELLULAR PH. 1982. P427-444.

HIRAMOTO Y RHEOLOGICAL PROPERTIES OF ECHINODERM EGGS DURING CELL DIVISION. BIORHEOLOGY 19. 1982. 71-78.

SMETANINA O F; NAIT E; KUZNETSOVA T A; ELYAKOV G V SULFATED DERIVATIVES FROM MARINE ORGANISMS 2. SULFATED STEROYL ALCOHOLS FROM THE HOLOTHURIAN PARATHYONA SP HOLOTHURIOIDEA CUCUMARIIDAE. CHEM NAT COMPD 17. 1981. 422-424.

TOMINAGA A; TAKASHIMA Y ACID PHOSPHATASE ACTIVITY IN SEA-URCHIN EGGS. J ELECTRON MICROSC 30. 1981. 238.

SHEN S S THE EFFECT OF EXTERNAL IONS ON PH-1 IN SEA-URCHIN LYTECHINUS PICTUS EGGS. INTRACELLULAR PH. 1982. P269-282.

WINKLER M M REGULATION OF PROTEIN SYNTHESIS IN SEA-URCHIN EGGS BY INTRA CELLULAR PH. INTRACELLULAR PH. 1982. P325-340.

PAGANO G; BOVE P; DE ANGELIS M; ESPOSITO A; ROTA A; GIORDANO C G MERCURY INDUCED DEVELOPMENTAL DEFECTS AND MITOTIC ABERRATIONS IN SEA-URCHIN DEVELOPMENT. MUTAT RES 97. 1982. 210.

BRAND T E PRESENCE OF THE PARASITIC GASTROPOD MELANELLA TOWNSENDI IN THE HOLOTHURIAN ISOSTICHOPUS FUSCUS. BULL AM MALCOL UNION 50. 1981. 39.

JABLONSKI D; LUTZ R A LARVAL ECOLOGY OF MARINE BENTHIC INVERTEBRATES PALEOBIOLOGICAL IMPLICATIONS. BIOL REV CAMB PHILOS SOC 58. 1983. 21-90.

REBACHUK N M; MAKSIMOV O B UBI QUINONES OF MARINE INVERTEBRATES. CHEM NAT COMPD 17. 1981. 515-517.

ANISIMOV A P MORPHOLOGICAL AND CYTOCHEMICAL CHARACTERISTICS OF THE EPITHELIUM OF THE ALIMENTARY CANAL OF SAND-DOLLAR SCAPHECHINUS GRISEUS. SOV J MAR BIOL 8. 1982. 24-31.

VOOGT P A EFFECTS OF EXPERIMENTAL CONDITIONS ON STEROID METABOLISM IN ASTERIAS RUBENS. GEN COMP ENDOCRINOL 46. 1982. 402.

DROZDOV A L; PODGORNAYA O I ACTIN CONTAINING EXTRACT FROM SPERM OF THE GRAY SEA-URCHIN STRONGYLOCENTROTUS INTERMEDIUS. SOV J DEV BIOL 13. 1982. 48-54.

WATTS S A; SCHEIBLING R E; MARSH A G; MCCLINTOCK J B HIGH SALINITY INDUCTION OF RAY ABNORMALITIES IN THE STARFISH ECHINASTER ECHINODERMATA ASTEROIDEA. FLA SCI 45 (SUPPL. 1). 1982. 21.

SARANCHOVA O L; KULAKOVSKII EE EFFECT OF ENVIRONMENTAL SALINITY ON DIFFERENT DEVELOPMENTAL STAGES OF SEA-STARS ASTERIAS RUBENS AND MUSSELS MYTILUS EDULIS. SOV J MAR BIOL 8. 1982. 32-36.

BUROVINA I V; MOTAVKIN P A; PIVOVAROVA N B; SKUL'SKII I A EFFECT OF COPPER ON FERTILIZATION AND ION COMPOSITION OF OOCYTES OF THE SEA-URCHIN STRONGYLOCENTROTUS NUDUS. SOV J MAR BIOL 7. 1981. 381-387.

KHATOON S; HALEY B E; ATHERTON R W PHOTO LABELING ANALYSIS OF THE CYCLIC AMP DEPENDENT PROTEIN KINASE REGULATORY SUBUNITS IN SEA-URCHIN AND RAT SPERM. BIOL REPROD 26 (SUPPL. 1). 1982. 132A.

IRIMURA S OPHIURANS FROM TANABE BAY AND ITS VICINITY JAPAN WITH THE DESCRIPTION OF A NEW SPECIES OF OPHIOCENTRUS. PUBL SETO MAR BIOL LAB 26. 1981. 15-50.

SHIGEI M THE ECHINOID FAUNA OF THE EAST CHINA SEA AND THE COASTAL WATERS OF SOUTHERN KOREA KYUSHU RYUKYU JAPAN AND TAIWAN PUBL SETO MAR BIOL LAB 26. 1981. 191-242.

PABIAN R K; STRIMPLE H L LATE PENNSYLVANIAN VIRGILIAN CRINOIDS FROM THE ERVINE CREEK LIMESTONE MEMBER OF THE DEER CREEK FORMATION IN THE SHAWNEE GROUP OF SOUTHEASTERN NEBRASKA AND SOUTHWESTERN IOWA USA. PROC NEBR ACAD SCI AFFIL SOC 92. 1982. 51.

MCKINNEY M L; JONES D S ONTOGENY AND PHYLOGENY OF EOCENE OLIGOPYGOIDS FROM THE OCALA LIMESTONE OF PENINSULAR FLORIDA USA. FLA SCI 45 (SUPPL. 1). 1982. 45.

LALLIER R; CHANG P; SARDET C POLARITY OF SEA-URCHIN EGGS AND THE INDUCTORS OF DIFFERENTIATION. ANNEE BIOL 20. 1981. 201-225.

ANISIMOV A P MORPHOLOGICAL AND CYTOCHEMICAL CHARACTERISTICS OF THE EPITHELIA OF THE DIGESTIVE TRACT OF SEA-URCHINS STRONGYLOCENTROTUS INTERMEDIUS AND STRONGYLOCENTROTUS NUDUS. SOV J MAR BIOL 7. 1981. 179-187.

NAUEN C E A REVIEW OF DATA ON RESPIRATION OF STARFISH AND THEIR POTENTIAL USE FOR DEFINING STARFISH GROWTH AND ECOLOGICAL ROLE. MEERESFORSCHUNG 29. 1981. 102-113.

MINALE L; PIZZA C; ZOLLO F; RICCIO R 5-ALPHA CHOLESTANE-3-BETA 6-BETA 15-ALPHA 16-BETA 26-PENTOL A POLY HYDROXYLATED STEROL FROM THE STARFISH HACELIA ATTENUATA. TETRAHEDRON LETT 23. 1982. 1841-1844.

LENNARZ W J; ROSSIGNOL D P; GLABE C G; KINSEY W H EGG SURFACE COMPONENTS INVOLVED IN SPERM BINDING. J SUPRAMOL STRUCT CELL BIOCHEM (SUPPL. 5). 1981. 244.

WEST M H P; PANTAZIS P; WU R S; BONNER W M THE HISTONE 2A CLASS CHARACTERIZATION AND EVOLUTION. J SUPRAMOL STRUCT CELL BIOCHEM (SUPPL. 5). 1981. 435.

MCCLINTOCK J B ESCAPE RESPONSE OF ARGOPECTEN IRRADIANS MOLLUSCA BIVALVIA TO LUIDIA CLATHRATA AND ECHINASTER SP ECHINODERMATA ASTEROIDEA. FLA SCI 45 (SUPPL. 1). 1982. 21.

KLINGER T S THE ROLE OF TELO RECEPTION IN THE LOCATION OF POTENTIAL FOOD ITEMS BY LYTECHINUS VARIEGATUS ECHINODERMATA ECHINOIDEA. FLA SCI 45 (SUPPL. 1). 1982. 20.

RHONE J P A PALEONTOLOGICAL INVESTIGATION OF SELECTED SITES IN EASTERN NEBRASKA USA. PROC NEBR ACAD SCI AFFIL SOC 91. 1981. 34. (ECH, CRI)

PABIAN R K; STRIMPLE H L MIDDLE DEVONIAN GILBERTSOCRINUS FROM WESTERN MARYLAND USA. PROC NEBR ACAD SCI AFFIL SOC 91. 1981. 33-34.

FRANCIS M P DISTRIBUTION AND ABUNDANCE OF THE CROWN-OF-THORNS STARFISH ACANTHASTER PLACCI AROUND TONGATAPU ISLAND TONGA SOUTH PACIFIC OCEAN. ATOLL RES BULL (254). 1981. 63-68.

FLANIGAN J M; LAMBERTS A E ACANTHASTER AS A RECURRING PHENOMENON IN SAMOAN SOUTH PACIFIC OCEAN HISTORY. ATOLL RES BULL (254). 1981. 59-62.

BIRKELAND C ACANTHASTER IN THE CULTURES OF HIGH ISLANDS. ATOLL RES BULL (254). 1981. 55-58.

GROSENBAUGH D A QUALITATIVE ASSESSMENT OF THE ASTEROIDS ECHINOIDS AND HOLOTHURIANS IN YAP LAGOON WEST PACIFIC OCEAN. ATOLL RES BULL (254). 1981. 49-54.

VERZHBINSKAYA N A MAGNESIUM DEPENDENT ATPASE IN THE TISSUES OF MARINE INVERTEBRATES. J EVOL BIOCHEM PHYSIOL 18. 1982. 22-28.

ANDREUCCETTI P; FILOSA S; MONROY A; PARISI E CELL-CELL INTERACTIONS AND THE ROLE OF MICROMERES IN THE CONTROL OF THE MITOTIC PATTERN IN SEA-URCHIN PARACENTROTUS LIVIDUS EMBRYOS. PROGRESS IN CLINICAL AND BIOLOGICAL RESEARCH, VOL. 85B. EMBRYONIC DEVELOPMENT 1982. P21-30.

SCHMIDT T THE ROLE OF EXOGENOUS CALCIUM IN FERTILIZATION ACTIVATION AND DEVELOPMENT OF THE SEA-URCHIN EGG. PROGRESS IN CLINICAL AND BIOLOGICAL RESEARCH, VOL. 85B. EMBRYONIC DEVELOPMENT. 1982. P11-20.

ROCCHERI M C; SPINELLI G; SCONZO G; CASANO C; GIUDICE G SOME EFFECTS OF HEAT SHOCK ON THE REGULATION OF MACRO MOLECULAR SYNTHESSES IN SEA-URCHIN EMBRYOS. PROGRESS IN CLINICAL AND BIOLOGICAL RESEARCH, VOL 85B. EMBRYONIC DEVELOPMENT. 1982. P31-44.

VITORELLI M L; MATRANGA V; CERVELLO M; NOLL H AGGREGATION FACTORS OF SEA-URCHIN EMBRYONIC CELLS. PROGRESS IN CLINICAL AND BIOLOGICAL RESEARCH, VOL. 85B. EMBRYONIC DEVELOPMENT. 1982. P211-222.

PALUMBO A; D'ISCHIA M; MISURACA G; PROTA G ISOLATION AND STRUCTURE OF A NEW SULFUR CONTAINING AMINO-ACID FROM SEA-URCHIN PARACENTROTUS LIVIDUS EGGS. TETRAHEDRON LETT 23. 1982. 3207-3208.

DIEHL W J EFFECT OF SALINITY ON LEVELS OF INTRA CELLULAR WATER IN THE PYLORIC CECA AND TUBE FEET OF LUIDIA CLATHRATA. FLA SCI 45 (SUPPL. 1). 1982. 20.

LAWRENCE J M STIMULATION OF THE PEDICELLARIAE OF COSCINASTERIAS TENUISPINA ECHINODERMATA ASTEROIDEA. FLA SCI 45 (SUPPL. 1). 1982. 20.

MCCLINTOCK J B; KLINGER T S; LAWRENCE J M EXTRAORAL FEEDING IN LUIDIA CLATHRATA ECHINODERMATA ASTEROIDEA. FLA SCI 45 (SUPPL. 1). 1982. 19-20.

KAMIMURA S; TAKAHASHI K DIRECT MEASUREMENT OF THE FORCE OF MICRO TUBULE SLIDING IN SEA-URCHIN SPERM FLAGELLA. CELL STRUCT FUNCT 6. 1981. 431.

MASUDA M; SATO H HOW DIVIDE CILIATED BLASTOMERES IN DEVELOPING SEA-URCHIN EMBRYO. CELL STRUCT FUNCT 6. 1981. 431.

SHINGYOJI C; TAKAHASHI K OSCILLATORY MOVEMENT OF LOCALLY REACTIVATED FLAGELLA. CELL STRUCT FUNCT 6. 1981. 430.

AMEMIYA S ON THE SPIDERY CELL IN THE BLASTOCOEL OF SEA-URCHIN HEMICENTROTUS PULCHERRIMUS EMBRYO. CELL STRUCT FUNCT 6. 1981. 428.

CROSS N L; MOURELLE M; GOULD-SOMERO M; DARSZON A THE PLASMA MEMBRANE OF SEA-URCHIN STRONGYLOCENTROTUS PURPURATUS SPERM ISOLATION ELECTROPHORETIC CHARACTERIZATION AND ADENYLYLATE CYCLASE ACTIVITY. STRUC. CELL BIOCHEM (SUPP 5). 1981. 283.

TURNER R S JR; BERTOLINI D R MASKING OF THE PRONASE SENSITIVITY OF SEA-URCHIN EMBRYO CELL ADHESION FORMATION. J SUPRAMOL STRUCT CELL BIOCHEM (SUPPL. 5). 1981. 278.

MCNAMARA K J HETEROCHRONY AND PHYLOGENETIC TRENDS. PALEOBIOLOGY 8. 1982. 130-142. (ECHINOIDEA)

THOMPSON G B UNDER WATER OBSERVATIONS ON THE DISTRIBUTION OF REGULAR SEA-URCHINS IN HONG-KONG. THE MARINE FLORA AND FAUNA OF HONG KONG AND SOUTHERN CHINA. HONG KONG UNIVERSITY PRESS. 1982. P655-672.

TAYLOR J D DIETS OF SUBLITTORAL PREDATORY GASTROPODS OF HONG KONG. THE MARINE FLORA AND FAUNA OF HONG KONG AND SOUTHERN CHINA. HONG KONG UNIVERSITY PRESS. 1982. P907-920. (OPH, ECHI)

LAUDER J M; WALLACE J A; KREBS H ROLES FOR NEURO TRANSMITTERS IN DEVELOPMENT POSSIBLE SUBSTRATES FOR TERATOGENIC INFLUENCES OF DRUGS. TERATOLOGY 25. 1982. 58A.

SHAPIRO B M; GABEL C A; GUNDERSEN G; EDDY E M PERSISTENCE OF SPERM COMPONENTS IN THE EARLY EMBRYO. J SUPRAMOL STRUCT CELL BIOCHEM (SUPPL. 5). 1981. 244.

ANISIMOV M M; IVANOV A S; POPOV A M; KISELEVA M I; SEBKO I G; KOROTKIKH L YA; ANTONOV A S; STONIK V A; ANTONOV V F EFFECT OF CERTAIN TRI TERPENE GLYCOSIDES AND POLYENE ANTIBIOTICS ON THE PERMEABILITY OF THE CELL MEMBRANES TO POTASSIUM IONS AND UV ABSORBING SUBSTANCES. APPL BIOCHEM MICROBIOOL. 1981. 668-673.

Picard, J. 1965. Recherches qualitatives sur les biocoénoses marines des substrats meubles dragables de la région marseillaise. Univ. Aix-Marseille. (crinoids, asteroids, ophiuroids, holothuroids, echinoids).

Pomel, M.A. 1883. Classification méthodique et générale des échinides vivants et fossiles. Univ. Paris.

Prouho, H. 1888. Recherches sur le Dorocidaris papillata et quelques autres échinides de la Méditerranée. Univ. Paris.

Pruvot, G. 1897. Essai sur les fonds et la faune de la Manche occidentale (Côtes de Bretagne) comparée à ceux du golfe du Lion. Univ. Paris. (crinoids, asteroids, ophiuroids, holothuroids, echinoids).

Régis, M.-B. 1978. Croissance de deux échinoides du golfe de Marseille (*Paracentrotus lividus* (Lmk) et *Arbacia lixula* L.). Aspects écologiques de la microstructure du squelette et de l'évolution des indices physiologiques. Univ. Aix-Marseille II.

Rey, J. 1972. Recherches géologiques sur le Crétacé inférieur de l'Estramadura (Portugal). I: Analyse stratigraphique. II. Analyse paléontologique: les Echinides. Univ. Toulouse.

Reyss, D. 1970. Bionomie benthique de deux canyons sous-marins de la mer Catalane: le rech du Cap et le rech Lacaze-Duthiers. Univ. Paris. (echinoids, holothuroids, asteroids, ophiuroids).

Roman, J. 1965. Morphologie et évolution des *Echinolampas* (Echinoides Cassiduloides). Univ. Paris.

Roux, M. 1978. Ontogénèse et évolution des Crinoides pédonculés depuis le Trias: implications océanographiques. Univ. Paris-Sud.

Rybäk, B. 1954. Recherches sur la biologie des spermatozoïdes d'oursins. Univ. Paris.

Salen-Picard, C. 1982. Contribution à l'étude dynamique des peuplements marins de substrat meuble: les peuplements macrobenthiques circalittoraux soumis à l'envasement dans la région provençale. Univ. Aix-Marseille. (ophiuroids, holothuroids).

Sourie, R. 1955. Contribution à l'étude écologique du côtes rocheuses du Sénégal. Univ. Paris. (echinoids, ophiuroids, holothuroids).

Thomassin, B.A. 1978. Peuplements des sédiments coralliens de la région de Tuléar (S.W. de Madagascar) et leur insertion dans le contexte côtier Indo-Pacifique. Univ. Aix-Marseille. (ophiuroids, asteroids, echinoids, holothuroids).

Viguier, C. 1879. Anatomie comparée du squelette des stellérides. Univ. Paris.

Picard, J. 1965. Recherches qualitatives sur les biocoénoses marines des substrats meubles dragables de la région marseillaise. Univ. Aix-Marseille. (crinoids, asteroids, ophiuroids, holothuroids, echinoids).

Pomel, M.A. 1883. Classification méthodique et générale des échinides vivants et fossiles. Univ. Paris.

Prouho, H. 1888. Recherches sur le *Dorocidaris papillata* et quelques autres échinides de la Méditerranée. Univ. Paris.

Pruvot, G. 1897. Essai sur les fonds et la faune de la Manche occidentale (Côtes de Bretagne) comparée à ceux du golfe du Lion. Univ. Paris. (crinoids, asteroids, ophiuroids, holothuroids, echinoids).

Régis, M.-B. 1978. Croissance de deux échinoides du golfe de Marseille (*Paracentrotus lividus* (Lmk) et *Arbacia lixula* L.). Aspects écologiques de la microstructure du squelette et de l'évolution des indices physiologiques. Univ. Aix-Marseille II.

Rey, J. 1972. Recherches géologiques sur le Crétacé inférieur de l'Estramadura (Portugal). I: Analyse stratigraphique. II. Analyse paléontologique: les Echinides. Univ. Toulouse.

Reyss, D. 1970. Bionomie benthique de deux canyons sous-marins de la mer Catalane: le rech du Cap et le rech Lacaze-Duthiers. Univ. Paris. (echinoids, holothuroids, asteroids, ophiuroids).

Roman, J. 1965. Morphologie et évolution des *Echinolampas* (Echinoides Cassiduloides). Univ. Paris.

Roux, M. 1978. Ontogénèse et évolution des Crinoides pédonculés depuis le Trias: implications océanographiques. Univ. Paris-Sud.

Rybäk, B. 1954. Recherches sur la biologie des spermatozoïdes d'oursins. Univ. Paris.

Salen-Picard, C. 1982. Contribution à l'étude dynamique des peuplements marins de substrat meuble: les peuplements macrobenthiques circalittoraux soumis à l'envasement dans la région provençale. Univ. Aix-Marseille. (ophiuroids, holothuroids).

Sourie, R. 1955. Contribution à l'étude écologique du côtes rocheuses du Sénégal. Univ. Paris. (echinoids, ophiuroids, holothuroids).

Thomassin, B.A. 1978. Peuplements des sédiments coralliens de la région de Tuléar (S.W. de Madagascar) et leur insertion dans le contexte côtier Indo-Pacifique. Univ. Aix-Marseille. (ophiuroids, asteroids, echinoids, holothuroids).

Viguier, C. 1879. Anatomie comparée du squelette des stéllérides. Univ. Paris.

CLARK A M ECHINODERMS OF HONG KONG. THE MARINE FLORA AND FAUNA OF HONG KONG AND SOUTHERN CHINA. HONG KONG UNIVERSITY PRESS. 1982. P485-502.

KOSTETSKII E YA; NAUMENKO N V; VAS'KOVSKII V E; GERASIMENKO N N LIPIDS OF MARINE ORGANISMS 1. IDENTIFICATION OF A HYDROXY ACID CONTAINING SPHINGOMYELIN IN THE STARFISH DISTOLASTERIAS NIPON. SOV J BIOORG CHEM 7. 1981. 579-584.

MOROZOV N N SOME ECOLOGICAL FEATURES OF SEA-URCHINS FROM THE GENUS STRONGYLOCENTROTUS. VESTN ZOOL (6). 1981. 77-79.

QING-CHAO C THE MARINE ZOO PLANKTON OF HONG KONG. THE MARINE FLORA AND FAUNA OF HONG KONG AND SOUTHERN CHINA. HONG KONG UNIVERSITY PRESS. 1982. P789-800.

THOMPSON G B SOME ECHINODERMS COLLECTED FROM CORAL HABITATS IN TOLO HARBOR HONG KONG. THE MARINE FLORA AND FAUNA OF HONG KONG AND SOUTHERN CHINA. HONG KONG UNIVERSITY PRESS. 1982. P651-654.

STEINBERG P FACTORS AFFECTING FEEDING PREFERENCES IN TEGULA FUNEBRALIS. WEST SOC MALACOL ANN REP 14. 1981. 10. (AST)

JOLLIE M WHAT ARE THE CALCICHORDATA? THE LARGER QUESTION OF THE ORIGIN OF CHORDATES. ZOOL J LINN SOC 75. 1982. 167-188.

LOPO A C; VACQUIER V D GAMETE INTERACTION IN THE SEA-URCHIN A MODEL FOR UNDERSTANDING THE MOLECULAR DETAILS OF ANIMAL FERTILIZATION.

MASTROIANNI, L. JR. AND J. D. BIGGERS (ED.). FERTILIZATION AND EMBRYONIC DEVELOPMENT IN VITRO. PLenum Publishing Co. 1981. 199-232.

KITTO G B; HACKERT M L; MAURI F; ERNST S COELOMIC HEMOGLOBINS OF THE SEA-CUCUMBER MOLPADIA ARENICOLA. FED PROC 41. 1982. ABSTRACT 2222.

YOSHIOKA T; INOUE H HIGH POTASSIUM EFFECT ON THE MOBILITY OF SEA-URCHIN PSEUDOCENTROTUS DEPRESSUS SPERM. NAGOYA J MED SCI 42. 1980. 82-84.

JOHNSON P J; THOMPSON T; KLEINSMITH L. J.; MOORE G P CLUSTERING OF THE ACTIN GENE IN THE SEA-URCHIN SPECIES STRONGYLOCENTROTUS FRANCISCANUS STRONGYLOCENTROTUS PURPURATUS AND LYTECHINUS PICTUS. FED PROC 41. 1982. ABSTRACT 6877.

ZEIGLER M E; KLEINSMITH L J CELL-FREE TRANSCRIPTION OF A CLONED SEA-URCHIN STRONGYLOCENTR'TUS PURPURATUS ACTIN GENE. FED PROC 41. 1982. ABSTRACT 5976.

LASKY L A; LEV Z; THOMAS T L; XIN J-H; LEE A S; BRITTON R J; DAVIDSON E H THE EXPRESSION OF ABUNDANT AND RARE MESSENGER RNA SEQUENCES DURING SEA-URCHIN DEVELOPMENT. SUER, H. W. FORTSCHRITTE DER ZOOLOGIE, BAND 26. GUSTAV FISCHER VERLAG: STUTTGART. 1981. 75-86.

SMITH L D FROG OOCYTES AND SEA-URCHIN EGGS STEROID HORMONES AND SPERM INDUCE SIMILAR EVENTS. SUER, H. W. FORTSCHRITTE DER ZOOLOGIE, BAND 26. GUSTAV FISCHER VERLAG: STUTTGART. 1981. 35-48.

BRACHET J A COMPARISON OF NUCLEO CYTOPLASMIC INTERACTIONS IN ACETABULARIA AND SEA-URCHIN EGGS. SUER, H. W. FORTSCHRITTE DER ZOOLOGIE, BAND 26. GUSTAV FISCHER VERLAG: STUTTGART 1981. 15-34.

GILBERT T. CONTEMPORARY SEDIMENTARY ENVIRONMENTS ON BAFFIN ISLAND, NORTHWEST TERRITORIES, CANADA. GLACIOMARINE PROCESSES IN FJORDS OF EASTERN CUMBERLAND PENISULA. ARCT ALP RES. 14. 1982. 1-12. (ECHINODERMATA)

AYLING A M. THE ROLE OF BIOLOGICAL DISTURBANCE IN TEMPERATE SUBTIDAL ENCRUSTING COMMUNITIES. ECOLOGY. 62. 1981. 830-847. (ECHINOIDEA)

PALMER A R: SZYMANSKA J: THOMAS L. PROLONGED WITHDRAWAL: A POSSIBLE PREDATOR Evasion BEHAVIOR IN BALANUS GLANDULA (CRUSTACEA CIRRIPEDIA). MAR. BIOL. 67. 1982. 51-56. (ASTEROIDEA)

GABRIEL W L: PEARCY W G. FEEDING SELECTIVITY OF DOVER SOLE MICROSTOMUS PACIFICUS OFF OREGON, USA. U. S. NATL. MAR. SERV. FISH. BULL. 79. 1981. 749-764. (OPHIUROIDEA)

SPIES R. B: DAVIS P H. TOXICITY OF SANTA BARBARA, CALIFORNIA, USA SEEP OIL TO STARFISH PATIRIA MINIATA EMBRYOS. 3. INFLUENCE OF PARENTAL EXPOSURE AND THE EFFECTS OF OTHER CRUDE OILS. MAR. ENVIRON. RES. 6. 1982. 3-12.

FARRELL K W: JORDAN M A. A KINETIC ANALYSIS OF ASSEMBLY DISASSEMBLY AT OPPOSITE MICROTUBULE ENDS. J. BIOL. ECHEM. 275. 1982. 3131-3138. (ECHINOIDEA)

BRAND U: VEIZER J. CHEMICAL DIAGENESIS OF A MULTICOMPONENT CARBONATE SYSTEM. 2. STABLE ISOTOPES. J SEDIMENT. PETROL. 51. 1981. 987-998. (CRINOIDEA)

MADSEN F J. RECORDS OF A PORCELLANASTERID STYRACASTER ELONGATUS (ECHINODERMATA: ASTEROIDEA) FROM THE CARIBBEAN WITH REMARKS ON GROWTH AND NOTES ON SOME OTHER SPECIES OF THE GENUS. STEENSTRUPIA. 7. 1981. 309-319.

KOMATSU M. DEVELOPMENT OF THE SEA STAR CTENOPLEURA FISHERI. MAR BIOL. 66. 1982. 199-206.

MARSHALL J I: ROWE F W E. THE CRINOIDS OF MADAGASCAR. BULL MUS NATL HIST NAT SECT A. 3. 1981. 379-414.

KESLING R V. THE CRINOID TRIBOLOPORUS CRYPTOPPLICATUS AND THE EVOLUTION OF THE POROCRINIDAE. CONTRIB MUS PALEONTOL. UNIV MICH. 25. 1981. 221-234.

AMEMIYA S. AKASAKA K: TERAYAMA H. SCANNING ELECTRON MICROSCOPY OF GASTRULATION IN A SEA URCHIN ANTHOCIDARIS CRASSIPSINA. J EMBRYOL EXP MORPHOL. 67. 1982. 27-36.

ISHIDA K: YASUMASU I. ACCELERATIVE EFFECT OF 5-CYCLIC AMP AND DIBUTYRYL CYCLIC AMP ON THE CLEAVAGE CYCLE OF SEA URCHIN ANTHOCIDARIS CRASSISPINA EGGS.

ROCCHERI M C: DI BERNARDO M G: ALBANESE I: DICARLO M: GUIDICE G. HEAT SHOCK PROTEINS IN SEA URCHIN PARACENTROTUS LIVIDUS EMBRYOS TERRITORIAL AND INTRACELLULAR LOCATION. ACTA EMBRYOL MORPHOL. EXP. NEW SER. 2. 1981. 91-100.

TAKAHASHI N: KANATANI H. EFFECT OF 17-BETA ESTRADIOL ON GROWTH OF OOCYTES IN CULTURED OVARIAN FRAGMENTS OF THE STARFISH ASTERINA PECTINIFERA. DEV. GROWTH. DIFFER. 23. 1981. 565-570.

MEIJER L: GUERRIER P. ACTIVATION OF CALMODULIN DEPENDENT NAD KINASE BY TRYPSIN. BIOCHIM BIOPHYS ACTA. 702. 1982. 143-146.

BURGESS W H. CHARACTERIZATION OF CALMODULIN AND CALMODULIN ISOTYPES FROM SEA URCHIN GAMETES. J BIOL. CHEM. 257. 1982. 1800-1804.

LIQUORI A M: MONROY A: PARISI E: TRIPICIANO A. A THEORETICAL EQUATION FOR DIAUXIC GROWTH AND ITS APPLICATION TO THE KINETICS OF THE EARLY DEVELOPMENT OF THE SEA URCHIN EMBRYO. DIFFERENTIATION. 20. 1981. 174-175.

WHITE S J: JACOBS R S. INHIBITION OF CELL DIVISION AND OF MICROTUBULE ASSEMBLY BY ELATONE, A HALOGENATED SEQUITERPENE. MOL PHARMACOL. 20. 1981. 614-620.

SUZUKI N: NAGANO H. PHOSPHORYLATION OF DEOXYRIBONUCLEOSIDES AND DAN SYNTHESIS DURING EMBRYOGENESIS OF THE SEA URCHIN HEMICENTROTUS PULCHERRIMUS. DEV. GROWTH DIFFER. 23. 1981. 571-578.

KISHIMOTO T: KURIYAMA R: KONDO H: KANATANI H. GENERALITY OF THE ACTION OF VARIOUS MATURATION PROMOTING FACTORS. EXP CELL RES. 137. 1982. 121-126. (ASTEROIDEA, HOLOTHUROIDEA)

TELFORD M. A HYDRODYNAMIC INTERPRETATION OF SAND-DOLLAR MORPHOLOGY. BULL MAR. SCI. 31. 1981. 605-622.

KRTOLICA K; SEVALJEVIC L. STAGE RELATED PHOSPHORYLATION OF CHROMATIN NONHISTONE AND NUCLEAR MATRIX PROTEINS FROM SEA-URCHIN EMBRYOS. BIOCHEM SOC. TRANS. 9. 1981. 353.

CONAND C. SEXUAL CYCLE OF 3 COMMERCIALLY IMPORTANT HOLOTHURIAN SPECIES ECHINODERMATA FROM THE LAGOON OF NEW CALEDONIA. BULL. MAR. SCI. 31. 1981. 523-543.

HARROLD C. ESCAPE RESPONSES AND PREY AVAILABILITY IN A KELP FOREST PREDATOR PREY SYSTEM. AM NAT. 119. 1982. 132-135. (AST)

PETZELT C; WUELFROTH P. EFFECT OF FLUPHENAZINE ON THE DEVELOPMENT OF FERTILIZED EGGS OF THE SEA-URCHIN PARACENTROTUS LIVIDUS. EUR. J. CELL BIOL. 24. 1981. 338-339.

TROTT L B A GENERAL REVIEW OF THE PEARLFISHES PISCES CARAPIDAE. BULL MAR SCI 31. 1981. 623-629. (HOL)

SHMUKLER YU B. INTER CELLULAR INTERACTION IN EARLY SEA-URCHIN EMBRYOS 3. EFFECT OF NEURO PHARMACOLOGICAL AGENTS OF TYPE OF CLEAVAGE OF SCAPHECHINUS MIRABILIS HALF EMBRYOS. SOV J DEV BIOL 12. 1981-1982.

HANSBROUGH J R; GARBERS D. L. PURIFICATION AND CHARACTERISTIC OF A PEPTIDE SPERACT ASSOCIATED WITH EGGS THAT STIMULATES SPERMATOZOA. ADVANCES IN ENZYME REGULATION, VOL. 19. 1981. 351-376.

WHITE, S. J.; JACOBS R. S. INHIBITION OF MACRO MOLECULAR SYNTHESIS PRECURSOR UPTAKE AND CELL DIVISION BY THE MARINE CYTO TOXIN STYPODIONE. FED PROC 41. 1982. ABSTRACT 7067.

STEINHARDT R. A.; ALDERTON J. M. CALMODULIN CONFFERS CALCIUM SENSITIVITY ON SECRETORY EXOCYTOSIS. NATURE 295. 1982. 154-155. (ECHINOIDEA)

MENZOROVA N I; RASSKAZOV V A INVESTIGATION OF THE SUBSTRATE SPECIFICITY OF CALCIUM MAGNESIUM DEPENDENT DNASE FROM EMBRYOS OF THE SEA-URCHIN STRONGYLOCENTROTUS INTERMEDIUS. BIOCHEMISTRY 46. 1981. 714-720.

SCHMIDT T; CZIHAK G. THE RELATIONSHIP BETWEEN CORTICAL GRANULE BREAKDOWN AND ACID RELEASE DURING FERTILIZATION AND PARTHENOGENETIC ACTIVATION OF THE SEA-URCHIN EGG. EUR J CELL BIOL 24. 1981. 342.

MOORMAN A; DE BOER P; VAN DONGEN W; DE LAAF R; DESTREE O. HISTONE GENES OF XENOPUS LAEVIS SEQUENCE OF AN H-3 GENE INCLUDING 5' and 3' REGULATORY SEQUENCES. BIOCHEM SOC TRANS 9. 1981. 254.

STRIMPLE H L THALAMOCRINUS LONGATUS FROM THE HENRYHOUSE FORMATION SILURIAN OF OKLAHOMA USA. OKLA GEOL NOTES 41. 1981. 116-119.

GUSTAFSON T THE CELLULAR BASIS OF MORPHOGENESIS AND BEHAVIOR DURING SEA-URCHIN DEVELOPMENT. THE BIOLOGY OF NORMAL HUMAN GROWTH. 1981. 129-138.

SHAPIRO B M AWAKENING OF THE INVERTEBRATE EGG AT FERTILIZATION. MASTROIANNI, L. JR. AND J. D. BIGGERS (ED.). FERTILIZATION AND EMBRYONIC DEVELOPMENT IN VITRO. PLenum Publishing Co. 1981. 233-256. ECHINOIDEA.

MAHARAJAN V; TOSI L; PRATIBHA M; SCARANO E ANALOGS OF 5 METHYLCYTOSINE AND EARLY EMBRYONIC DEVELOPMENT. CLINICAL AND BIOLOGICAL RESEARCH, VOL. 85A. EMBRYONIC DEVELOPMENT. 1982. P227-234. ECHINOIDEA.

BRAWLEY S H; ADEY W H STUDIES OF ALGAL COMMUNITY STRUCTURE IN A CORAL REEF MICROCOISM. PHYCOLOGIA 20. 1981. 100. ECHINOIDEA.

VASETSKII S G; ZHIRMUNSKII A V; KUZ'MIN V I CRITICAL LEVELS IN MODELS OF STABLE ALLOMETRIC DEVELOPMENT IN BIOLOGICAL SYSTEMS QUANTITATIVE ANALYSIS OF THE STAGES OF EMBRYONIC DEVELOPMENT IN POIKILOOTHERMS. SOV J DEV BIOL 12. 1981 (1982). 283-296. ECHINOIDEA.

SCADELLA C: CAMPISI J: ELHAI J: SELEK M. MEMBRANE FLUIDITY CHANGES ACCOMPANY ACTIVATION OF SEA URCHIN EGGS. BIOPHYS J. 37. 1982. 16-18.

BURKE R D. STRUCTURE OF THE DIGESTIVE TRACT OF THE PLUTEUS LARVA OF DENDRASTER EXCENTRICUS (ECHINODERMATA ECHINOIDEA). ZOOMORPHOLOGY. 98. 1981. 209-226.

SMITH A C. SEX SPECIFIC AGGLUTINATION OF FISH RED BLOOD CELLS BY SEA URCHIN ECHINOMETRA OBLONGA COELOMIC FLUID. DEV COMP IMMUNOL. 5. 1981. 357-360.

CARPENTER R C. GRAZING BY DIADEMA ANTILLARUM AND ITS EFFECTS ON THE BENTHIC ALGAL COMMUNITY. J MAR RES. 39. 1981. 749-766.

TARVERDIEVA M I. FEEDING OF SNOW CRABS CHIONOECETES OPILIO AND CHIONOECETES BAIRDI IN THE BERING SEA. ZOOL ZH. 60. 1981. 991-997. (ECHINOIDEA, OPHIUROIDEA).

BADVE R M: NAYAK K K. NATURE OF PRESERVATION OF ECHINOID SKELETAL REMAINS AND THEIR SIGNIFICANCE IN THE STUDY OF FOSSIL ALGAE. BIO-VIGYANAM. 7. 1981. 163-168.

WEBSTER G D. NEW CRINOIDS FROM THE NACO FORMATION, MIDDLE PENNSYLVANIAN OF ARIZONA USA AND A REVISION OF THE FAMILY CROMYOCRINIDAE. J PALEONTOL. 55. 1981. 1176-1199.

BERTHEUSSEN K. ENDOCYTOSIS BY ECHINOID PHAGOCYTES IN VITRO. 1. RECOGNITION OF FOREIGN MATTER. DEV COMP IMMUNOL. 5. 1981. 241-250.

HOLLAND N D: GRIMMER J C. FINE STRUCTURE OF SYZYGIAL ARTICULATIONS BEFORE AND AFTER ARM AUTOTOMY IN FLOROMETRA SERRATISSIMA (ECHINODERMATA: CRINOIDEA) ZOOMORPHOLOGY. 98. 1981. 169-183.

HILGERS H. SPLECHTNA H. FINE STRUCTURE OF THE OPHIOCEPHALOUS PEDICELLARIAE FROM ARBACIA LIXULA (ECHINODERMATA: ECHIOIDEA) FUNCTIONAL ANALYSIS OF THE STALK. ZOOMORPHOLOGY. 97. 1981. 89-100.

MAERKEL K. EXPERIMENTAL MORPHOLOGY OF CORONAR GROWTH IN REGULAR ECHINOIDS. ZOOMORPHOLOGY. 97. 1981. 31-52.

BRENCHLEY G A. DISTURBANCE AND COMMUNITY STRUCTURE: AN EXPERIMENTAL STUDY OF BIOTURBATION IN MARINE SOFT BOTTOM ENVIRONMENTS. J MAR RES. 39. 1981. 767-790.

STRIMPLE H L: PAREYN C. CIBOLOCRINUS FROM THE NAURIAN OF NORTH AFRICA WITH NOTES ON THE GENUS. J PALEONTOL. 56. 1982. 226-232.

LANE N G.: SEVASTOPULO G D. MICROCRINOIDS FROM THE MIDDLE PENNSYLVANIAN OF INDIANA USA. J PALEONTOL. 56. 1982. 103-115.

GRYGIER M J. A REPRESENTATIVE OF THE GENUS DENDROGASTER NEW RECORD CIRRIPEDIA ASCOTHORACICA PARASITIC IN AN ANTARCTIC STARFISH ACODONTASTER CONSPICUUS. ANTARCT RES SER. 32. 1981. 1-15.

OPPENHEIMER S B: MEYER J T. ISOLATION OF SPECIES SPECIFIC AND STAGE SPECIFIC ADHESION PROMOTING COMPONENT BY DISAGGREGATION OF INTACT SEA URCHIN STRONGYLOCENTROTUS PURPURATUS EMBR_O CELLS. EXP CELL RES. 137. 1982. 472-476.

WOLCOTT D L. DOES PROTEIN SYNTHESIS DECLINE IN LITHIUM TREATED SEA URCHIN EMBRYOS BECAUSE RNA SYNTHESIS IS INHIBITED. EXP CELL RES. 137. 1982. 427-431.

TANAKA Y. DISTRIBUTION AND REDISTRIBUTION OF PIGMENT GRANULES IN THE DEVELOPMENT OF SEA URCHIN EMBRYOS. ARCH DEV BIOL. 190. 1981. 267-273.

LABARBERA M. METABOLIC RATES OF SUSPENSION FEEDING CRINOIDS AND OPHIUROIDS (ECHINODERMATA) IN A UNIDIRECTIONAL LAMINAR FLOW. COMP. BIOCHEM PHYSIOL 71A. 1982. 303-308.

DOREE M: SANO K: KANATANI H. AMMONIA AND OTHER WEAK BASES APPLIED AT ANY TIME OF THE HORMONE DEPENDENT PERIOD INHIBIT 1 METHYL ADENINE INDUCED MEIOSIS REINITIATION OF STARFISH ASTERINA PECTINIFERA OOCYTES. DEV BIOL. 90. 1982. 13-17.

HALL H G, VACQUIER V D. THE APICAL LAMINA OF THE SEA URCHIN *STRONGYLOCENTROTUS PUPURATUS* EMBRYO MAJOR GLYCOPROTEINS ASSOCIATED WITH THE HYALINE LAYER. *DEV BIOL.* 89. 1982. 168-178.

CARRON C P, LONGO F J. RELATION OF THE CYTOPLASMIC ALKALINIZATION TO MICROVILLAR ELONGATION AND MICROFILAMENT FORMATION IN THE SEA URCHIN *ARBACIA PUNCTULATA* EGG. *DEV BIOL.* 89. 1982. 128-137.

BERTHEUSSEN K. ENDOCYTOSIS BY ECHINOID PHAGOCYTES IN VITRO. 2. MECHANISMS OF ENDOCYTOSIS. *DEV COMP IMMUNOL.* 5. 1981. 557-564.

COFFE G, ROLA F H, SOYER M O, PUDLES J. PARTHENOGENETIC ACTIVATION OF SEA URCHIN *PARACENTROTUS LIVIDUS* EGG INDUCES A CYCLICAL VARIATION OF THE CYTOPLASMIC RESISTANCE TO HEXYLENE GLYCOL TRITON X-100 TREATMENT. *EXP CELL RES.* 137. 1982. 63-72.

KOVESDI I, SMITH M J. SEQUENCE COMPLEXITY IN THE MATERNAL RNA OF THE STARFISH *PISASTER OCHRACEUS*. *DEV BIOL.* 89. 1982. 56-63.

TURNER R D. WOOD ISLANDS AND THERMAL VENTS AS CENTERS OF DIVERSE COMMUNITIES IN THE DEEP SEA. *BIOL. MORYA.* 91. 1981. 3-10. (CRI, ECHI, HOLOTH, OPHIUROIDEA)

GARREY J, MAXWELL H, CRESSELL G R. DISPERSAL OF TROPICAL MARINE FAUNA TO THE GREAT AUSTRALIAN BIGHT BY THE LEEUWIN CURRENT. *AUST. J MAR FRESHWATER RES.* 32. 1981. 493-500. (HOLOTHUROIDEA).

DAVIS P H, SCHULTZ T W, SPIES R B. TOXICITY OF SANTA BARBARA CALIFORNIA USA SEEP OIL TO STARFISH *PATIRIA MINIATA* EMBRYOS 2. THE GROWTH BIOASSAY. *MAR ENVIRON RES.* 5. 1981. 287-294.

STUERMER D H, SPIES R B, DAVIS P H. TOXICITY OF SANTA BARBARA CALIFORNIA USA SEEP OIL TO STARFISH *PATIRIA MINIATA* EMBRYOS 1. HYDROCARBON COMPOSITION OF TEST SOLUTIONS AND FIELD SAMPLES. *MAR ENVIRON RES.* 5. 1981. 275-286.

CASTAGNA A, SINATRA F, SCALIA M, CAPODICASA V. OBSERVATIONS OF THE EFFECT OF ZINC ON THE GAMETES AND VARIOUS STAGES OF DEVELOPMENT PHASES OF *ARBACIA LIXULA*. *MAR BIOL.* 64. 1981. 285-290.

WAREN A. EULIMID GASTROPODS PARASITIC ON ECHINODERMS IN THE NEW ZEALAND REGION. *N Z J ZOOL.* 8. 1981. 313-324. (AST, CRI, ECH, OPHIUR)

DOERING P H. OBSERVATIONS ON THE BEHAVIOR OF *ASTERIAS FORBESI* FEEDING ON *MERCENARIA MERCENARIA*. *OPHELIA.* 20. 1981. 169-178.

MUUS K. DENSITY AND GROWTH OF JUVENILE *AMPHIURA FILIFORMIS* (OPHIUROIDEA) IN THE ORESUND, SCANDINAVIA. *OPHELIA.* 20. 1981. 153-168.

GUZMAN C A. ASTERODON GRANULOSUS, NEW RECORD (ECHINODERMATA: ASTEROIDEA). *BOL SOC BIOL CONCEPCION* 51. 1981. 175-176.

RICHTER H-P, SCHEURICH P, ZIMMERMANN U. ELECTRIC FIELD INDUCED FUSION OF SEA URCHIN *PARACENTROTUS LIVIDUS* EGGS. *DEV GROWTH DIFFER.* 23. 1981. 479-486.

COBB J L S, STUBBS T R. THE GIANT NEURON SYSTEM IN OPHIUROIDS. 1. THE GENERAL MORPHOLOGY OF THE RADIAL NERVE CORDS AND CIRCUMORAL NERVE RING. *CELL TISSUE RES.* 219. 1981. 197-207.

MOODY W J, HAGIWARA S. BLOCK OF INWARD RECTIFICATION BY INTRACELLULAR HYDROGEN ION IN IMMATURE OOCYTES OF THE STARFISH *MEDIASTER AEQUALIS*. *J GEN PHYSIOL.* 79. 1982. 115-130. 79. 1982.

RICCIO R, DINI A, MINALE L, PIZZA C, ZOLLO F, SEVENET T. STARFISH SAPONINS. 7. STRUCTURE OF LUZONICOSIDE A FURTHER STEROIDAL CYCLIC GLYCOSIDE FROM THE PACIFIC STARFISH *ECHINASTER LUZONICUS*. *EXPERENTIA.* 38. 1982. 68-70.

TANG W-J, BELL C W, SALE W S, GIBBONS I R. STRUCTURE OF THE DYNEIN 1 OUTER ARM IN SEA URCHIN *TRIPNEUSTES GRATILLA* SPERM FLAGELLA 1. ANALYSIS BY SEPARATION OF SUBUNITS. *J BIOL CHEM.* 257. 1982. 508-515.

BELL C W, GIBBONS I R. STRUCTURE OF THE DYNEIN 1 OUTER ARM IN SEA URCHIN SPERM FLAGELLA 2. ANALYSIS BY PROTEOLYTIC CLEAVAGE. *J BIOL. CHEM.* 257. 1982. 516-522.

PENNINGGROWTH S M, CHEUNG A, BOUCHARD P, GAGNON C, BARDIN C W. DYNEIN ATPASE IS INHIBITED SELECTIVELY IN VITRO BY ERYTHRO-9-3-2-HYDROXYNONYL ADENINE. *BIOCHEM BIOPHYS RES COMMUN.* 104. 1982. 234-240.

WOOD R L, CAVEY M J. ULTRASTRUCTURE OF THE COELOMIC LINING IN THE PODIUM OF THE STARFISH *STYLASTERIAS FORRERI*. *CELL TISSUE RES.* 218. 1981. 449-473.

MIRAMAND, P: FOWLER, S W: GUARY J C: COMPARATIVE STUDY OF VANADIUM BIOKINETICS IN THREE SPECIES OF ECHINODERMS. MAR BIOL. 67. 1982. 127-134.

BOCKELIE, J F. FUNCTIONAL MORPHOLOGY AND EVOLUTION OF THE CYSTOID ECHINOSPHAERITES. LETHAIA. 14. 1981. 189-202.

BOCKELIE, J.F. SYMMETRY AND AMBULACRAL PATTERN OF THE RHOMBIFERAN SUPERFAMILY CARYOCYSTITIDA AND THE RELATIONSHIP TO OTHER BLASTOZOA. GEOL. FOREN. STOCKH. FORH. 103. 1981. 491-498.

FRANZEN C. A SILURIAN CRINOID THANATOTOPE FROM GOTLAND SWEDEN. GEOL. FOREN STOCKH. FORH. 103. 1981. 469-490.

KELLER T C S III: JEMILO D K: BURGESS W H: FEBHUN L I. STRONGYLOCENTROTUS PURPURATUS SPINDLE TUBULIN. 2. CHARACTERISTICS OF ITS SENSITIVITY TO CALCIUM AND THE EFFECTS OF CALMODULIN ISOLATED FROM BOVINE BRAIN AND STRONGYLOCENTROTUS PURPURATUS EGGS. J CELL BIOL. 93. 1982. 797-803.

KELLER, T C S: FEBHUN L I. STRONGYLOCENTROTUS PURPURATUS SPINDLE TUBULIN 1. CHARACTERISTICS OF ITS POLYMERIZATION AND DEPOLYMERIZATION IN VITRO. J CELL BIOL. 93. 1982. 788-796.

STRICKLAND, W N: STRICKLAND M: VON HOLT C: GIANCOTTI V: A PARTIAL STRUCTURE OF HISTONE H-1 FROM SPERM OF THE SEA URCHIN SPHAERECHINUS GRANULOSUS. BIOCHIM BIOPHYS ACTA. 703. 1982. 95-100.

GIBBONS B.H: EFFECTS OF ORGANIC SOLVENTS ON FLAGELLAR ASYMMETRY AND QUIESCENCE IN SEA URCHIN TRIPNEUSTES GRATILLA SPERM. J CELL SCI. 54. 1982. 115-136.

WU R.S: NISHIOKA D: BONNER W M: DIFFERENTIAL CONSERVATION OF HISTONE H-2A VARIANTS BETWEEN MAMMALS AND SEA URCHINS STRONGYLOCENTROTUS PURPURATUS. J CELL BIOL. 93. 1982. 4326-431.

OSTFELD, R S: FORAGING STRATEGIES AND PREY SWITCHING IN THE CALIFORNIA SEA OTTER ENHYDRA LUTRIS. OECOLOGIA. 53. 1982. 170-178 (ECH)

THOMPSON G.B: THOMPSON C. MOVEMENT AND SIZE STRUCTURE IN A POPULATION OF THE BLUE STARFISH LINCKIA LAEVIGATA AT LIZARD ISLAND GREAT BARRIER REEF. AUSTRALIA. AUST J MAR FRESHWATER RES 33. 1982. 561-574.

SELMAN G G: DETERMINATION OF THE FIRST TWO CLEAVAGE FURROWS IN DEVELOPING EGGS OF TRITURUS ALPESTRIS COMPARED WITH OTHER FORMS. DEV GROWTH DIFFER. 24. 1982. 1-6. (ECHINODERM)

SMITH A.B: PAUL C R C: REVISION OF THE CLASS CYCLOCYSTOIDEA ECHINODERMATA. PHILOS TRANS R SOC LOND B BIOL SCI. 296. 1982. 577-679.

WATANABE M: BERTOLINI D R: KEW D TURNER R S JR. CHANGES IN THE NATURE OF THE CELL ADHESIONS OF THE SEA URCHIN EMBRYO. DEV BIOL. 91. 1982. 278-285.

SLOAN N A: NORTHWAY S M. CHEMORECEPTORS BY THE ASTEROID CROSSASTER PAPPOSUS. J EXP MAR BIOL ECOL. 61. 1982. 85-98.

AISA E: AISA M C: AMBROSINI M V: GIOVANNINI E. ALKALINE PHOSPHATASE EC-3.1.3.1 IN ASTERIAS BISPINOSA PARTIAL PURIFICATION AND CHARACTERIZATION. COMP BIOCHEM PHYSIOL B 72. 1982. 141-144.

PEARSE J S: EERNISSE D J. PHOTOPERIODIC REGULATION OF GAMETOGENESIS AND GONADAL GROWTH IN SEA STAR PISASTER OCHRACEUS. MAR BIOL. 67. 1982. 121-126.

SUGIMOTO T: TAJIMA K-I: TOMITA K. REPRODUCTIVE CYCLE OF THE SEA URCHIN STRONGYLOCENTROTUS NUDUS ON THE NORTHERN COAST OF HOKKAIDO JAPAN. SCI. REP HOKKAIDO FISH EXP STN. (24). 1982. 91-99.

GHIOLD J. OBSERVATIONS ON THE CLYPEASTEROID ECHINOCYAMUS PUSILLUS. J EXP MAR BIOL. ECOL. 61. 1982. 57-74.

SAMMARCO P W. ECHINOID GRAZING AS A STRUCTURING FORCE IN CORAL COMMUNITIES. WHOLE REEF MANIPULATIONS. J EXP MAR BIOL ECOL. 61. 1982. 31-56.

FRANZ D R: WORLEY E K. SEASONAL VARIABILITY OF PREY IN THE STOMACHS OF ASTROPECTEN AMERICANUS (ECHINODERMATA ASTEROIDEA) FROM OFF SOUTHERN NEW ENGLAND USA. ESTUARINE COASTAL SHELF SCI. 14. 1982. 355-368.

SCHMID P H: SCHÄFER R. PREDATOR PREY INTERACTION BETWEEN TWO COMPETING SEA STAR SPECIES OF THE GENUS ASTROPECTEN. MAR ECOL (PSZN). 2. 1981. 207-214.

SCHMID P H. OSSICLE MORPHOLOGY OF FOUR SEA STAR SPECIES OF THE GENUS ASTROPECTEN (ASTEROIDEA: ECHINODERMATA) AND ITS BEARING ON A PREDATORS' DIET. MAR ECOL (PSZN). 2. 1981. 199-206.

SLOAN NA. SIZE AND STRUCTURE OF ECHINODERM POPULATIONS ASSOCIATED WITH DIFFERENT COEXISTING CORAL SPECIES AT ALDABRA ATOLL SEYCHELLES. MAR BIOL. 66. 1982. 67-76. (ECHINOIDEA, HOLOTHUROIDEA, OPHIUROIDEA)

FREST, T J: STRIMPLE H L. A NEW COMAROCYSTITID (ECHINODERMATA: PARACRINOIDEA) FROM THE KIMMSWICK LIMESTONE MIDDLE ORDOVICIAN MISSOURI USA. J PALEONTOL. 56. 1982. 358-370.

BAKER A N: DEVANEY D M. NEW RECORDS OF OPHIUROIDEA ECHINODERMATA FROM SOUTHERN AUSTRALIA INCLUDING NEW SPECIES OF OPHIACANTHA AND OPHIONEREIS. TRANS R SOC S AUST. 105. 1981. 155-178.

JAFFE L A: GOULD-SOMERO: HOLLAND L Z. STUDIES OF THE MECHANISM OF THE ELECTRICAL POLYSPERMY BLOCK USING VOLTAGE CLAMP DURING CROSS SPECIES FERTILIZATION. J CELL BIOL. 92. 1982. 616-621.

NOJIMA S. ECOLOGICAL STUDIES OF THE SEA STAR ASTROPECTEN LATESPINOSUS. 4. GROWTH CURVE. PUBL AMAKUSA MAR BIOL LAB KYUSHU UNIV. 6. 1982. 85-94.

NOJIMA S. ECOLOGICAL STUDIES OF THE SEA STAR ASTROPECTEN LATESPINOSUS. 2. GROWTH RATE AND DIFFERENCES IN GROWTH PATTERN OF IMMATURE AND MATURE SEA-STARS. PUBL AMAKUSA MAR BIOL LAB KYUSHU UNIV. 6. 1982. 65-84.

GAGE J D: TYLER P A. GROWTH AND REPRODUCTION OF THE SEEP SEA BRITTLE-STAR OPHIOMUSIUM LYMANI. OCEANOL ACTA. 5. 1982. 73-83.

SCHMIDT T: PATTON C: EPEL D. IS THERE A ROLE FOR THE CALCIUM II INFLUX DURING FERTILIZATION OF THE SEA URCHIN EGG? DEV BIOL. 90. 1982. 284-290.

GLABE C G: LENNARZ W J. ISOLATION OF A HIGH MOLECULAR WEIGHT GLYCOCOCONJUGATE DERIVED FROM THE SURFACE OF STRONGYLOCENTROTUS PURPURATUS EGGS THAT IS IMPLICATED IN SPERM ADHESION. J SUPRAMOL STRUCT CELL BIOCHEM. 15. 1981. 387-394.

BERTOLINI D R: WATANABE M: TURNER R S JR. PROTEASE INSENSITIVE SEA URCHIN STRONGYLOCENTROTUS PURPURATUS EMBRYO CELL ADHESIONS BEMCCE PROTEASE SENSITIVE IN THE PRESENCE OF AZIDE OR CYTOCHALASIN B. J SUPRAMOL STRUCT CELL BIOCHEM. 15. 1981. 327-334.

ISHIGURO K: MUROFUSHI H: SAKAI H. EVIDENCE THAT CYCLIC AMP DEPENDENT PROTEIN KINASE AND A PROTEIN FACTOR ARE INVOLVED IN REACTIVATION OF TRITON X-100 MODELS OF SEA URCHIN AND STARFISH ASTERIAS AMURENSIS SPERMATOZOA. J CELL BIOL. 92. 1982. 777-782.

PENNINGROTH S M: CHEUNG A: OLEHNIK K: KOSLOSKY R. MECHANOCHEMICAL COUPLING IN THE RELAXATION OF RIGOR WAVE SEA URCHIN SPERM FALGELLA. J CELL BIOL. 92. 1982. 733-741.

NEWROCK K M: FREEDMAN N: ALFAGEME C R: COHEN L H. ISOLATION OF SEA URCHIN STRONGYLOCENTROTUS PURPURATUS EMBRYO HISTONE H-2A-ALPHA-1 AND IMMUNOLOGICAL IDENTIFICATION OF OTHER STAGE SPECIFIC H-2A PROTEINS. DEV BIOL. 89. 1982. 248-253.

MANCHENKO G P: PRIIMA T F. ALLOZYMIC VARIATION OF ASPARTATE AMINO TRANSFERASE EC-2.6.a.a IN STARFISH PATIRIA PECTINIFERA. GENETIKA. 17. 1981. 1872-1875.

BERNSTEIN B B: WELSFORD R W. AN ASSESSMENT OF EASIBILITY OF USING HIGH CALCIUM QUICKLIME AS AN EXPERIMENTAL TOOL FOR RESEARCH INTO KELP BED SEA URCHIN ECOSYSTEM IN NOVA SCOTIA CANADA. CAN TECH REP FISH AQUAT SCI. (968). 1982. 1-51.

PUNZO F. EXTERNAL CALCIUM CONCENTRATION AND FERTILIZATION IN THE SEA URCHIN STRONGYLOCENTROTUS FRANCISCANUS (ECHINODERMATA) J EXP MAR BIOL ECOL. 60. 1982. 71-76.

ISHIHARA K: TONEGAWA Y: SUYEMITSU T: KUBO H. THE BLASTOCOELIC FLUID OF SEA URCHIN ANTHOCIDARIS CRASSISPINA EMBRYO INDUCES EXOGASTRULATION. J EXP ZOOL. 220. 1982. 227-234.

SUZUKI S. PHYSIOLOGICAL AND CYTOCHEMICAL STUDIES ON ACTIVATOR CALCIUM IN CONCENTRATION BY SMOOTH MUSCLE OF A SEA CUCUMBER ISOSTICHOPUS BADIONOTUS. CELL TISSUE RES. 222. 1982. 11-24.

YANO Y: MIKI-NOUMURA T. RECOVERY OF SLIDING ABILITY IN ARM DEPLETED FLAGELLAR AXONEMES AFTER RECOMBINATION WITH EXTRACTED DYNEIN 1. J CELL SCI. 48. 1981. 223-239. (ECHINOIDEA)

CARIELLO L: GIUDICI M D: TOSTI E: ZANETTI L. ON THE MECHANISM OF ACTION OF BONELLIN ON THE SEA URCHIN EGG. GAMETE RES. 5. 1982. 161-166

DALE B: DE SANTIS A: HAGSTROM B E. THE EFFECT OF NICOTINE ON SPERM EGG INTERACTION IN THE SEA URCHIN POLYSPERM AND ELECTRICAL EVENTS. GAMETE RES. 5. 1982. 125-136.

KAKEKO I: IDEDA, Y: OZAKI H. CALCIUM LEVEL OF EACH PART IN SEA URCHIN HEMICENTROTUS PULCHERRIMUS. BULL JPN SOC SCI FISH. 48. 1982. 11-14.

KISHIMOTO T: CLARK T G: KONDO H K: SHIRAI H: KANATANI H. INHIBITION OF STARFISH OOCYTE MATURATION BY SOME INHIBITORS OF PROTEOLYTIC ENZYMES. GAMETE RES. 5. 1982. 11-18.

SHMUKLER YU B: CHAILAKHYAN L M: SMOLYANINOV V V: BLOKH ZH L: KARPOVICH A L: GUSAREVA E V: NAIDENKU T KH: ZHASHER Z KH-M: MEDVEDEVA T D. CELLULAR INTERACTIONS IN THE EARLY EMBRYOS OF SEA URCHINS 2. DATED MECHANICAL SEPARATION OF BLASTOMERES. ONTOGENEZ. 12. 1981. 398-403.

BEGG, D A: REBHUN L I: HYATT H. STRUCTURAL ORGANIZATION OF ACTIN IN THE SEA URCHIN EGG CORTEX MICROVILLAR ELONGATION IN THE ABSENCE OF ACTIN FILAMENT BUNDLE FORMATION. J CELL BIOL. 93. 1982. 24-32.

BUZNIKOV GA: GORDEEV E N: MARKOVA L N: SUVOROV N N: EFFECT OF TRYPTAMINE AND SEROTONIN ON DEVELOPMENT OF SEA URCHINS. ONTOGENEZ. 12. 1981. 414-417.

SHMUKLER YU B: CELLULAR INTERACTIONS IN THE EARLY EMBRYOS OF SEA URCHINS 3. EFFECT OF NEUROPHARMACEUTICALS ON CLEAVAGE TYPE OF HALF EMBRYOS OF SCPAHECHINUS MIRABILIS. ONTOGENEZ. 12. 1981. 404-409.

RIDEOUT J A: SUTHERLAND M D. PIGMENTS OF MARINE ANIMALS. 14. POLYKETIDE SULFATES FROM THE CRINOID COMATULA PECTINATA. AUST J CHEM. 34. 1981. 2385-2392.

ROSSIGNOL D P: ROSCHELLE A J: LENNARZ W J: SPERM EGG BINDING IDENTIFICATION OF A SPECIES SPECIFIC SPERM RECEPTOR FROM EGGS OF STRONGYLOCENTROTUS PURPURATUS. J SUPRAMOL STRUCT CELL BIOCHEM. 15. 1981. 347-358.

OSIPOVA T N: VOROB'EV V I: BOETTGER M: VON MICKWITZ C-U: SCHERNECK S. THE ROLE OF HISTONE H-2B FROM SEA URCHIN STRONGYLOCENTROTUS INTERMEDIUS SPERM IN THE ASSOCIATION OF RECONSTITUTE MINICHROMOSOMES. MOL BIOL REP 8. 1982. 71-76.

BONSDORFF E: VAHL O. FOOD PREFERENCE OF THE SEA URCHINS ECHINUS ACUTUS AND ECHINUS ESCULENTUS. MAR BEHAV PHYSIOL. 8. 1982. 243-248.

SAMMARCO P W: WILLIAMS A H. DAMSELFISH TERRITORIALITY INFLUENCE ON DIADEMA DISTRIBUTION AND IMPLICATIONS FOR CORAL COMMUNITY STRUCTURE. MAR ECOL PROG SER. 8. 1982. 53-60.

HAMMOND L S. ANALYSIS OF GRAIN SIZE SELECTION BY DEPOSIT FEEDING HOLOTHURIANS AND ECHINODERMATA FROM A SHALLOW REEF LAGOON, DISCOVERY BAY, JAMAICA, WEST INDIES. MAR ECOL PROG SER. 8. 1982. 25-36.

CARTER JA A: STEELE D H. STOMACH CONTENTS OF IMMATURE LOBSTERS HOMARUS AMERICANUS FROM PLACENTIA BAY, NEWFOUNDLAND, CANADA. CAN J ZOOL. 60. 1982. 337-347.

BAUER J C. ON THE GROWTH OF THE LABORATORY REARED SEA-URCHIN DIADEMA-ANTILLARUM ECHINODERMATA ECHINOIDEA/B BULL MAR SCI 32. 1982. 643-645.

DEARBORN J H: EDWARDS K C; FRATT D B. FEEDING BIOLOGY OF SEA-STARS AND BRITTLE-STARS ALONG THE ANTARCTIC PENINSULA. ANTARCT J U S 16. 1981. 136-173.

SCHEIBLING R E. HABITAT UTILIZATION AND BIO TURBATION BY CREASTER-RETICULATUS ASTEROIDEA AND MEOMA-VENTRICUSA ECHINOIDEA IN A SUBTIDAL SAND PATCH. BULL MAR SCI 32. 1982. 624-629.

NESTER H. DER MEERESBODEN DES UNTER-MAASTRICHTS IM RAUM RUGEN UND SEINE SEEIGELFAUNA. GEOPHYS U GEOL. 1980. 2, 23-30.

NESTER, H. EIN NEUER PALAECHINUS (ECHINOIDEA) AUS DEM DEVON. Z. GEOL. WISS. 1981. 9. 553-559.

COLGAN M W. LONG-TERM RECOVERY PROCESS OF A CORAL COMMUNITY AFTER A CATASTROPHIC DISTURBANCE. UNIV. GUAM MAR. LAB. TECH. RPT. 1981. (67). (ACANTHASTER)

KRISHNAN M B. 1980. MONOGRAPH ON HOLOTHURIA (METRIALYA) SCABRA JAEGER. MEM. ZOOL. SURV. INDIA. 1980. 16 (2). 75 PP.

GLUCHOWSKI E. ONTOGENETIC DEVELOPMENT OF MEDIOCIRINUS MICROGRUMOSUS DUBATOLOVA FROM THE MIDDLE DEVONIAN OF THE HOLY CROSS MTS. ZESZTY NAUKOWE AGH, GEOLOGIA. 6.

GLUCHOWSKI E. 1980. NEW TAXA OF DEVONIAN AND CARBONIFEROUS CRINOID STEM PARTS FROM POLAND. BULL. ACAD POLON SCI. 1980. 28(1).

GUARY, J-C; FOWLER S.W; BEASLEY, T.M. ROUTES OF PLUTONIUM UPTAKE AND THEIR RELATION TO BIOMAGNIFICATION IN STARFISH. MAR. POLLUT BULL. 13. 1982. 98-102.

KOBAYASHI, A.; TAKEMURA, A; KOSHIMIZU K; NAGANO H; KAWAZU, K. CANDIDUSIN A AND B. NEW P TERPHENYLS WITH CYTOTOXIC EFFECTS ON SEA URCHIN EMBRYOS. BIOL. CHEM. 46. 1982. 585-590.

STRIMPLE, H.L; CONEY, C.C. A CRINOID FAUNULE FROM THE NEWMAN FORMATION MISSISSIPPIAN OF EASTERN TENNESSEE USA. J. PALEONTOL. 56. 1982. 989-995.

BOCKELIE, J.F. MORPHOLOGY, GROWTH, AND TAXONOMY OF THE ORDOVICIAN RHOMBIFERAN CARYOCYSTITES. GEOL. FOREN STOCKH. FORH. 103. 1981. 499-513.

BLAKE, D.F; PEACOR, D.R; WILKINSON, B.H. THE SEQUENCE AND MECHANISM OF LOW TEMPERATURE DOLOMITE FORMATION CALCIAN DOLOMITES IN A PENNSYLVANIAN ECHINODERM. J. SEDIMENT. PETROL. 52. 1982. 59-70.

DOJIRI, M; HUMES, A.G. COPEPODS POECILOSTOMATOIDA TAENIACANTHIDAE FROM SEA URCHINS ECHINOIDEA IN THE SOUTHWEST PACIFIC. ZOOL. J. LINN. SOC. 74. 1982. 381-436.

OSHIMA, N. ELECTROPHORETIC MOVEMENT OF FERTILIZED SEA URCHIN EGGS. J. CELL SCI. 55. 1982. 105-114.

ELYAKOV, G.B; FEDOROV, S.N; CHUMAK, A.D; ISAKOV, V.V; STONIK, V.A. SULFATED DERIVATIVES FROM MARINE INVERTEBRATES. 1. SULFATED STEROLS FROM SOME SPECIES OF ECHINODERMS. COMP. BIOCHEM. PHYSIOL. B. 71. 1982. 325-328.

DOREE, M. EARLY PHOSPHORYLATION OF A 38 KILODALTON NUCLEAR PROTEIN FOLLOWING HORMONE INDUCED MEIOSIS REINITIATION OF A STARFISH ASTERIAS RUBENS OOCYTES. C.R. SEANCES ACAD. SCI. SER. III. SCI. VIE. 294. 1981. 519-522.

PODGORNAYA, O.I; DROZDOV, A.D; PINAEV, G.P. PROFILAMENT ACTIN IN STARFISH ASTERIAS AMURENSIS AMBULACRAL MUSCLE CELLS. BIOKHIKIYA. 46. 1981. 1015-1025.

SAOTOME, K. A METHOD FOR CHROMOSOME PREPARATION OF SEA URCHIN CLYPEASTER JAPONICUS EMBRYOS. STAIN TECHNOL. 57. 1982. 103-106.

HAMMOND, L.S. PATTERNS OF FEEDING AND ACTIVITY IN DEPOSIT FEEDING HOLOTHURIANS AND ECHINOIDS ECHINODERMATA FROM A SHALLOW BACK REEF LAGOON DISCOVERY BAY, JAMAICA, WEST INDIES. BULL. MAR. SCI. 32. 1982. 549-571.

SCHEIBLING, R.E. FEEDING HABITS OF OREASTER RETICULATUS (ECHINODERMATA: ASTEROIDEA). BULL. MAR. SCI. 32. 1982. 504-510.

REGIS, M.-B. MORPHOMETRIC ASPECTS OF GROWTH OF TWO ECHINOIDS OF THE GULF OF MARSEILLE, FRANCE: PARACENTROTUS LIVIDUS AND ARBACIA LIXULA. CAH. BIOL. MAR. 22. 1981. 349-370.

RYABUSHKO, V.I; TARASOV, V.G; CHERBADZHI, I.I; RYABUSHKO, L.I. RESPIRATION OF SAND DOLLARS IN THE COMMUNITY OF MOBILE FILTERING MOLLUSKS. BIOL. MORYA (VLAD.) 0 (5). 1981. 60-65.

DETTRICH, H.W. III; WILLIAMS, R.C. JR; WILSON, L. EFFECT OF COLCHICINE BINDING ON THE REVERSIBLE DISSOCIATION OF THE TUBULIN DIMER. BIOCHEMISTRY. 21. 1982. 2392-2400. (ECHINOIDEA).

PLAZA, H; CAPRILES, V.A. REPORT OF AN ANOMALOUS HOLOTHURIAN FROM PUERTO RICAN WATERS. CARIB. J. SCI. 18. 1982. 41-42.

SMIRNOVA, G.P; KOCHETKOV, H.K. A SIALOGLYCOLIPID CONTAINING N ACETYL GALACTOSAMINE FROM THE HEPATOPANCREASE OF THE STARFISH EVASTERIAS RETIFERA. SOV. J. BIOORG. CHEM. 8. 1982. 47-53.

DRUMMOND-DVAIS N C: MANN K H: POTTLE R A. SOME ESTIMATES OF POPULATION DENSITY AND FEEDING HABITS OF THE ROCK CRAB *CANCER IRRORATUS* IN A KELP BED IN NOVA SCOTIA CANADA. CAN J FISH AQUAT SCI. 39. 1982. 636-639. (ECHINOIDEA)

ROBERTS D: BRYCE C. FURTHER OBSERVATIONS ON TENTACULAR FEEDING MECHANISMS IN HOLOTHURIANS. J EXP MAR BIOL ECOL. 59. 1982. 151-164.

WILLIAMS M J. NATURAL FOOD AND FEEDING IN THE COMMERCIAL SAND CRAB *PORTUNUS PELAGICUS* (CRUSTACEA DECAPODA PORTUNIDAE) IN MORETON BAY, QUEENSLAND, AUSTRALIA. J EXP MAR BIOL ECOL. 59. 1982. 165-176. (OPHIUROIDEA)

KNOX G A: FENWICK G D. ZONATION OF INSHORE BNETHOS OFF A SEWAGE OUTFALL IN HAWKE BAY, NEW ZEALAND. N Z J MAR FRESHWATER RES. 15. 1981. 417-436. (HOLOTHUROIDEA)

ANISIMOV M M: IVANOV A S: POPOV A M: KISELEVA M I: SEBKO I G: KOROTKIKH L YA: ANTONOV A S: STONIK V A: ANTONOV V F. EFFECT OF TRITERPENE GLYCOSIDES AND POLYENE ANTIBIOTICS ON CELL MEMBRANE PERMEABILITY FOR POTASSIUM AND UV ABSORBING AGENTS. PRIKL BIOKhim MIKROBIOL. 17. 1981. 890-895. (ECHINOIDEA, HOLOTHUROIDEA)

TITUS R. FOSSIL COMMUNITIES OF THE MIDDLE TRENTON GROUP ORDOVICIAN OF NEW YORK STATE USA. J PALEONTOL. 56. 1982. 477-485. (CRINOIDEA)

CARNEY R S: CAREY A G JR. DISTRIBUTION AND DIVERSITY OF HOLOTHUROIDES (ECHINODERMATA) ON CASCADIA BASIN AND TUFTS ABYSSAL PLAIN, OREGON, USA. DEEP-SEA RES A OCEANOGR RES PAP. 29. 1982. 597-608.

YOKOTA Y: NAKANO E. COMPARATIVE STUDIES ON PARTICULATE ACID PHOSPHATASES IN SEA URCHIN EGGS. COMP BIOCHEM PHYSIOL B. 71. 1982. 563-568.

SALING P M: ECKBERG W R: METZ C B. MECHANISM OF UNIVALENT ANTISPERM ANTIBODY INHIBITION OF FERTILIZATION IN THE SEA URCHIN *ARBACIA PUNCTULATA*. J EXP ZOOL. 221. 1982. 93-100.

ECKBERG W R: METZ C B: ISOLATION OF AN *ARBACIA* SPERM FERTILIZATION ANTIGEN. J EXP ZOOL. 221. 1982. 101-106.

MIZOGUCHI A: MIZUOCHI T: KITAZUME Y: TAMURA G: KOBATA A. ABNORMAL SPICULE FORMATION INDUCED BY TUNICAMYCIN IN THE EARLY DEVELOPMENT OF SEA URCHIN *HEMICENTROTUS PULCHERRIMUS* EMBRYO. CELL STRUCT FUNCT. 6. 1981. 341-346.

GOLDSTEIN S F. MOTILITY OF BASAL FRAGMENTS OF SEA URCHIN SPERM FLAGELLA. J CELL SCI. 50. 1981. 65-77.

DUNGAN M L: MILLER T E: THOMSON D A. CATASTROPHIC DECLINE OF A TOP CARNIVORE IN THE GULF OF CALIFORNIA, MEXICO ROCKY INTERTIDAL ZONE. SCIENCE. 216. 1982. 989-991. (ASTEROIDEA)

FREST T J: STRIMPLE H L. NEW MANICRINIDAE CRINOIDEA INADUNATA DENDROCRININA FROM THE SILURIAN OF ILLINOIS AND INDIANA USA. J PALEONTOL. 56. 1982. 720-728.

KOLATA D R: JOLLIE M. ANAMALOCYSTITID MITRATES STYLOPHORA ECHINODERMATA FROM THE CHAMPLAINIAN MIDDLE ORDOVICIAN GUTTENBERG FORMATION OF THE UPPER MISSISSIPPIAN VALLEY REGION USA. J PALEONTOL. 56. 1982. 631-653.

SHIGEI M. THE SPATANGOID SEA URCHIN (ECHIONIDEA SPATANGOIDA) LOVENIA LATA NEW SPECIES FROM SAGAMI BAY, JAPAN. J FAC SCI UNIV TOKYO SECT IV ZOOL. 15. 1981. 81-88.

WITZKE B J: STRIMPLE H L. EARLY SILURIAN CAMERATE CRINODSS OF EASTERN IOWA USA. PROC IOWA ACAD SCI. 88. 1981. 101-137.

OSANAI K: KYOZUKA K-I. CROSS FERTILIZATION BETWEEN SEA URCHIN *TEMNOPLEURUS HADWICKI* EGGS AND OYSTER *CRASSOSTREA GIGAS* SPERMATOZOA. GAMETE RES. 5. 1982. 49-60.

BANG F B. DISEASE PROCESSES IN SEA-STARS. A METCHNIKOVAN CHALLENGE. BIOL. BULL. 162. 1982. 135-148.

SCHUEL H: SCHUEL R: DANDEKAR P: BOLDT J: SUMMERS R G. SODIUM REQUIREMENTS IN HARDENING OF THE FERTILIZATION ENVELOPE AND EMBRYONIC DEVELOPMENT IN SEA URCHINS. BIOL. BULL. 162. 1982. 202-213.

REBACHUK N M: MAKSIMOV O B UBI QUINONES OF MARINE INVERTEBRATES. KHIM PRIR SOEDIN (TASHK) 0 (6). 1981. 715-718.

KITAGAWA I; KOBAYASHI M; KYOGOKU Y. MARINE NATURAL PRODUCTS 9. STRUCTURAL ELUCIDATION OF TRI TERPENOIDAL OLIGO GLYCOSIDES FROM THE BAHAMIAN SEA-CUCUMBER *ACTINOPYGA-AGASSIZI*. CHEM PHARM BULL (TOKYO) 30. 1982. 2045-2050.

MACURDA D B JR. SHALLOW WATER CRINOIDEA ECHINODERMATA FROM CARRIE-BOW CAY BELIZE. SMITHSON CONTRIB MAR SCI 0 (12). 1982. 413-416.

HOTCHKISS F H C OPHIUROIDEA ECHINODERMATA FROM CARRIE-BOW CAY BELIZE. SMITHSON CONTRIB MAR SCI 0 (12). 1982. 387-412.

CARTER J A: STEELE D H. ATTRACTION TO AND SELECTION OF PREY BY IMMATURE LOBSTERS *HOMARUS AMERICANUS*. CAN J ZOOL. 60. 1982. 326-336. (ASTEROIDEA, ECHINOIDEA)

DOERING P H. REDUCTION OF ATTRACTIVENESS TO THE SEA STAR *ASTERIAS FORBESI* BY THE CLAM *MERCENARAI MERCENARIA*. J EXP MAR BIOL ECOL 60. 1982. 47-62.

BRENCHLEY G A. MECHANISMS OF SPATIAL COMPETITION IN MARINE SOFT BOTTOM COMMUNITIES. J EXP MAR BIOL ECOL. 60. 1982. 17-34 (ECHINOIDEA, HOLOTHUROIDEA)

BRETT C E. TERMINOLOGY AND FUNCTIONAL MORPHOLOGY OF ATTACHMENT STRUCTURE IN PELMATOZOAN ECHINODERMS. LETHAIA. 14. 1981. 343-370.

LANE N G: SEVASTOPULO G D. GROWTH AND SYSTEMATIC REVISION OF *KALLIMORPHOCRINUS ASTRUS*, A PENNSYLVANIAN MICROCRINOID. J PALEONTOL. 56. 1982. 244-259.

EJIMA Y: SHIROYA T. PHOTOREACTIVATION ASSOCIATED WITH MORPHOLOGICAL ABNORMALITY IN SEA URCHIN *HEMICENTROTUS PULCHERRIMUS* EMBRYOS INDUCED BY UV IRRADIATED SPERM. PHOTOCHEM PHOTOBIOLOG. 35. 1982. 175-180.

CHOAT J H: SCHIEL D R. PATTERNS OF DISTRIBUTION AND ABUNDANCE OF LARGE BROWNT ALGAE AND INVERTEBRATE HERBIVORES IN SUBTIDAL REGIONS OF NORTHERN NEW ZEALAND. J EXP MAR BIOL ECOL 60. 1982. 129-162. (ECHINOIDEA)

MORIARTY O J W. FEEDING OF *HOLOTHURIA ATRA* AND *STICHOPUS CHLORONOTUS* ON BACTERIA ORGANIC CARBON AND ORGANIC NITROGEN IN SEDIMENTS OF THE GREAT BARRIER REEF, AUSTRALIA. AUST J MAR FRESHWATER RES. 33. 1982. 255-264.

HIGHSIMITH R C. INDUCED SETTLEMENT AND METAMORPHOSIS OF SAND DOLLAR *DENDRASTER EXCENTRICUS* LARVAE IN PREDATOR FREE SITES ADULT SAND OLLAR BEDS. ECOLOGY. 63. 1982. 329-337.

KASTENDIEK J. FACTORS DETERMINING THE DISTRIBUTION OF THE SEA PANSY *RENILLA KOLLIKERI* IN A SUBTIDAL SAND BOTTOM HABITAT. OECOLOGIA. 52. 1982. 340-347. (ASTEROIDEA, ECHINOIDEA)

TAGHON G L. OPTIMAL FORAGING BY DEPOSIT FEEDING INVERTEBRATES. ROLES OF PARTICLE SIZE AND ORGANIC COATING. OECOLOGIA. 52. 1982. 295-304. (HOLOTHUROIDEA)

YINGST J Y. FACTORS INFLUENCING RATES OF SEDIMENT INGESTION BY PARASTICHOPUS PARVIMENSIS AN EPIBENTHIC DEPOSIT FEEDING HOLOTHURIAN. ESTUARINE COASTAL SHELF SCI. 14. 1982. 119-134.

MCCLINTOCK J B: KLINGER T S: LAWRENCE J M. FEEDING PREFERENCES OF ECHINODS FOR PLANT AND ANIMAL FOOD MODEL. BULL MAR SCI. 32. 1982. 365-369.

MALINS D C: ROUBAL W T. ARYLSULFATE FORMATION IN SEA URCHINS *STRONGYLOCENTROTUS DROEBACHINESIS* INGESTING MARINE ALGAE *FUCUS DISTICHUS* CONTAINING 2, 6 DIMETHYL NAPHTHALENE. ENVIRON RES. 27. 1982. 290-297.

BRETT C E: ECKERT J D. PALEOECOLOGY OF A WELL PRESERVED CRINOID COLONY FROM THE SILURIAN ROCHESTER SHALE IN ONTARIO, CANADA. R ONT MUS LIFE SCI CONTRIB. (131). 1982. 1-20.

TYLER P A: PAIN S L: GAGE J D. THE REPRODUCTIVE BIOLOGY OF THE DEEP SEA ASTEROID *BATHYBIASTER VEXILLER*. J MAR BIOL. ASS U K. 62. 1982. 57-70.

TYLER P A: GAGE J D. THE REPRODUCTIVE BIOLOGY OF *OPHIACANTHA BIDENTATA* (ECHINODERMATA: OPHIUROIDEA) FROM THE ROCKALL TROUGH. J MAR BIOL. ASS U K. 62. 1982. 45-56.

OGAWA K: NEGISHI: OBIKA M. IMMUNOLOGICL DISSIMILARITY IN PROTEIN COMPONENT DYNEIN 1 BETWEEN OUTER AND INNER ARMS WITHIN SEA URCHIN *ANTHOCIDARIS CRASSISPINA* SPERM AXONEMES. J CELL BIOL. 92. 1982. 706-713.

KUNKLE M. CHROMATIN TRNSITIONS IN THE FERTILIZING SPERM NUCLEUS OF THE SEA URCHIN *STRONGYLOCENTROTUS PURPURATUS*. GAMETE RES. 5. 1982. 181-190.

BUSSLINGER M: RUSCONI S: BIRNSTIEL M L. AN UNUSUAL EVOLUTIONARY BEHAVIOR OF A SEA URCHIN HISTONE GENE CLUSTER. EUR MOL BIOLL ORGAN J. 1. 1982. 27-34.

LOPEZ-IBOR ALINO, A.: GALAN NOVELLA, C. PRIMERA CITA DE ASLIA LEFEVREI (BARROIS, 1882) (ECHINODERMATA; HOLOTHUROIDEA) EN EL MEDITERRANEO. CAH. BIOL. MAR. 1982. 23, 260-273.

LOPEZ-IBOR, A.: GALAN C.: TEMPLADO, J. ECHINODERMES DU CABO DE PALOS (MURCIA, ESPAGNE). BIOLOGIE-ECOLOGIE MEDITERRANEEENNE. 1982. 9, 3-18.

TRIBBLE G W. REEF BASED HERBIVORES AND THE DISTRIBUTION OF TWO SEAGRASSES
SYRINGODIUM FILIFORME AND THALASSIA TESTUDINUM IN THE SAN BLAS ISLANDS,
WESTERN CARIBBEAN. MAR. BIOL. 1981. 277-282. (ECHINOIDEA)

WILLIAMS A H. AN ANALYSIS OF COMPETITIVE INTERACTIONS IN A PATCHY BACK REEF
ENVIRONMENT. ECOLOGY. 62. 1981. 1107-1120. (ECHINOIDEA)

SEVASTOPULO G D: LANE N G. SILURIAN MICROCRINOIDS FROM WESTERN TENNESSEE, USA.
J. PALEONTOL. 55. 1981. 1171-1175.

BLAKE D B. SOMASTEROIDEA (ASTEROIDEA) AND THE AFFINITIES OF LUIDIA LATIRADIATA,
NEW COMBINATION. PALAEONTOLOGY. 25. 1982. 167-192.

GALE A S: SMITH A B. THE PALEOBIOLOGY OF THE CRETACEOUS IRREGULAR ECHINOIDS
INFULASTER AND HAGENOWIA. PALAEONTOLOGY. 25. 1982. 11-42.

KIER P M. RAPID EVOLUTION IN ECHINODS. PALAEONTOLOGY. 25. 1982. 1-10.

MACURDA D B JR: ROUX M. THE SKELETAL MORPHOLOGY OF THE ISOCRINID CRINOIDS
ANNACRINUS WYVILLETHOMSONI AND DIPLOCRINUS MACLEARANUS. CONTRIB MUS
PALEONTOL UNIV MICH. 25. 1981. 169-219.

BOCKELIE J F. THE MIDDLE ORDOVICIAN OF THE OSLO REGION, NORWAY 30. THE ECORINOID
GENERA CRYPTOCRINITES, RHIPIDOCYSTIS, AND BOCKIA. NOR GEOL TIDSSKR.
61. 1981. 123-148.

BOCKELIE J F. A REEVALUATION OF THE ORDOVICIAN CYSTOID STICHOCYSTIS AND THE
TAXONOMIC IMPLICATIONS. GEOL FOREN STOCKH FORH. 103. 1981. 51-59.

MARTYNOVA L E. GASTRULATION IN THE SEA URCHIN STRONGYLOCENTROTUS DROEBACHIENSIS
UNDER NORMAL CONDITIONS AND AFTER TREATMENT WITH VARIOUS DRUGS. ONTOGENEZ.
12. 1981. 310-315.

STUBBS T R: COBB J L S. THE GIANT NEURON SYSTEM IN OPHIUROIDS. 2. THE HYPONEURAL
MOTOR TRACTS. CELL TISSUE RES. 220. 1981. 373-385.

OKAZAKI K: DILLAMAN R M: WILBUR K M. CRYSTALLINE AXES OF THE SPINE AND TEST OF
THE SEA URCHIN STRONGYLOCENTROTUS PURPURATUS. DETERMINATION BY CRYSTAL
ETCHING AND DECORATION. BIOL. BULL. 161. 1981. 402-415.

MARUYAMA Y K. PRECOCIOUS BREAKDOWN OF THE GERMINAL VESICLE INDUCES PARTHENOGENETIC
DEVELOPMENT IN SEA CUCUMBERS. BIOL. BULL. 161. 1981. 382-391.

LEIBSON N L. FEATURES OF CELL DIVISION IN THE INTESTINAL EPITHELIUM OF THE
HOLOTHURIAN CUCUMARIA FRAUDATRIX. BIOL. MORYA. (3). 1981. 81-83.

ANISIMOV A P. MORPHOLOGICL AND CYTOCHEMICAL CHARACTERISTICS OF THE ALIMENTARY
CANAL EPITHELIUM OF SEA URCHINS STRONGYLOCENTROTUS INTERMEDIUS AND STRONGYLO-
CENTROTUS NUDUS (ECHINODERMATA: ECHINOIDEA). BIOL. MORYA. (3). 1981. 32-42.

NAKATSUKA M. CHANGE IN HATCHING ENZYME ACTIVITY DURING DEVELOPMENT OF THE SEA
URCHIN HEMICENTROTUS PULCHERRIMUS. DEV GROWTH DIFFER. 23. 1981. 371-380.

LOVTRUP-REIN H: LOVTRUP S. ENERGY SOURCES IN THE SEA URCHIN PARACENTROTUS LIVIDUS
EMBRYO: A CRITIQUE OF CURRENT VIEWS. ACTA EMBRYOL MORPHOL EXP. NEW SER.
1. 1980. 93-102.

YAMADA Y. MATSUI T: AKETA K. PURIFICATION AND CARACTERIZATION OF A CHYMOTRYPSIN-
LIKE ENZYME FROM SPERM OF THE SEA URCHIN HEMICENTROTUS PULCHERRIMUS.
EUR J BIOCHEM. 122. 1982. 57-62.

SPECK W T: ROSENKRANZ P G: ROSENKRANZ H S. INHIBITION OF DNA SYNTHESIS ACCCOMPANIED
BY STIMULATION OF PROTEIN SYNTHESIS IN NOVOBIOCIN TREATED DEVELOPING SEA
URCHINS ARBACIA PUNCTULATA. MUTAT RES. 104. 1982. 125-130.

HARPER D E JR: MCKINNEY L D: SALZER R R: CASE R J. OCCURRENCE OF HYPOXIC
BOTTOM WATER OFF THE UPPER TEXAS USA AND ITS EFFECTS ON THE BENTHIC BIOTA.
CONTRIB MAR SCI. 24. 1981. 53-79. (ECHINODERMATA)

PHILLIPS D W: CASTORI P. DEFENSIVE RESPONSES TO PREDATORY SEA STARS BY TWO
SPECIALIST LIMPETS NOTOACMEA INSESSA AND COLLISELLA INSTABILIS ASSOCIATED WITH
MARINE ALGAE. J EXP MAR BIOL ECOL. 59. 1982. 23-30. (ASTEROIDEA)

LITVINNOVA N M. BEHAVIOR OF OPHIOPHOLIS ACULEATA (OPHIUROIDEA) IN THE TIME OF REPRODUCTION. ZOOL. ZH. 60. 1981. 942-945.

RICCIO R: MINALE L: PIZZA C: ZOLLO F: PUSSET J. STARFISH SAPONINS 8. STRUCTURE OF NODOSIDE, A NOVEL TYPE OF STEROIDAL GLYCOSIDE FROM THE STARFISH PROTOREASTER NODOSUS. TETRAHEDRON LETT. 23. 1982. 2899-2902.

OKAZAKI K: DILLAMAN R. SPINES AND TEST OF THE SEA URCHIN STRONGYLOCENTROTUS PURPURATUS. DEV GROWTH DIFFER. 23. 1981. 442.

KEATS D W: SOUTH G R : STEELE D H: THE OCCURRENCE OF AGARUM CRIBROSUM(PHAEOPHYTA: LAMINARIALES) IN RELATION TO SOME OF ITS COMPETITORS AND PREDATORS IN NEWFOUNDLAND, CANADA. PHYCOLOGIA. 21. 1982. 189-191. (ECHINOIDEA)

THOMAS, I M. ECHINODERMS (PHYLUM ECHINODERMATA). IN: SHEPHERD S A AND I M THOMAS (ED.). HANDBOOK OF THE FLORA AND FAUNA OF SOUTH AUSTRALIA: MARINE INVERTEBRATES OF SOUTHERN AUSTRALIA. PART 1. D J WOOLMAN: NETLEY, SOUTH AUSTRALIA. 1982. 395-396.

ROWE F W E. SEA CUCUMBERS (CLASS HOLOTHUROIDEA). IN: SHEPHERD S A AND I M THOMAS (ED.) HANDBOOK OF THE FLORA AND FAUNA OF SOUTHERN AUSTRALIA: MARINE INVERTEBRATES OF SOUTHERN AUSTRALIA. PART 1. D J WOOLMAN: NETLEY, SOUTH AUSTRALIA. 1982. 454-476.

BAKER A N. SEA URCHINS (CLASS ECHINOIDEA). IN: SHEPHERD S A AND I M THOMAS (ED.). HANDBOOK OF THE FLORA AND FAUNA OF SOUTHERN AUSTRALIA. MARINE INVERTEBRATES OF SOUTHERN AUSTRALIA. PART 1. D J WOOLMAN: NETLEY, SOUTH AUSTRALIA. 1982. 437-454.

BAKER A N. BRITTLE STARS (CLASS OPHIUROIDEA). IN: SHEPHERD S A AND I M THOMAS (ED.). HANDBOOK OF THE FLORA AND FAUNA OF SOUTHERN AUSTRALIA. MARINE INVERTEBRATES OF SOUTHERN AUSTRALIA. PART 1. D J WOOLMAN: NETLEY, SOUTH AUSTRALIA. 1982. 418-437.

ZEIDLER W: SHEPHERD S A. SEA STARS (CLASS ASTEROIDEA). IN SHEPHERD S A AND I M THOMAS (ED.). HANDBOOK OF THE FLORA AND FAUNA OF SOUTHERN AUSTRALIA: MARINE INVERTEBRATES OF SOUTHERN AUSTRALIA. PART 1. D J WOOLMAN: NETLEY, SOUTH AUSTRALIA. 400-418.

SHEPHERD S A: MARSHALL J: FOWE F W E. FEATHER STARS (CLASS CRINOIDEA). IN: SHEPHERD S A AND I M THOMAS (ED.). HANDBOOK OF THE FLORA AND FAUNA OF SOUTHERN AUSTRALIA: MARINE INVERTEBRATES OF SOUTHERN AUSTRALIA. PART 1. D J WOOLMAN: NETLEY, SOUTH AUSTRALIA. 1982. 396-400.

ISHIKAWA M: MUTO Y. ASTER LIKE BODIES OF THE SEA URCHIN EGG INDUCED BY HEXYLENE GLYCOL. DEV GROWTH DIFFER 23. 1981. 445.

PODGORNAYA O I: DORZDOV A D: PINAEV G P. PROFILAMENT ACTIN IN MUSCLE CELLS OF STARFISH ASTERIAS AMURENSIS AMBULACRA. BIOCHEMISTRY. 46. 1981. 822-831.

TOMINAGA A: TAKASHIMA Y. GELATIN EMBEDDING FOR ENZYME ULTRACYTOCHEMISTRY ACID PHOSPHATASE ACTIVITY IN SEA URCHIN EGGS. J ELECTRON MICROSC. 30. 1981. 339-340.

GABAEV D D. SETTLEMENT OF LARVAE OF BIVALVE MOLLUSKS AND STARFISHSES ON COLLECTORS IN POS'YET BAY, SEA OF JAPAN. SOV J MAR BIOL. 7. 1981. 263-268.

CLARK A M: ROWE F W E. REVISED PROPOSALS FOR STABILIZATION OF THE NAMES OF CERTAIN GENERA AND SPECIES OF HOLOTHUROIDEA. BULL ZOOL NOMENCL. 39. 1982. 29-35.

DAVID B. STUNTING OF TWO IRREGULAR SEA URCHINS IN THE HAUTERIVAIN OF THE CASTELLANE AREA SOUTHEASTERN FRANCE. GEOBIOS. 14. 1981. 795-800.

MOON R T: HILLE M B. SEA URCHIN EGG MESSENGER RIBONUCLEOPROTEIN PROTEINS MOLECULAR WEIGHT SIMILARITIES WITH HELIX DESTABILIZING FACTOR AND ELONGATION FACTOR PROTEINS. BIOCHEM SOC TRANS. 9. 1981. 204.

SHMUKLER YU B: CHAILAKHYAN L M: SMOLYANINOV V V: BLOKH ZH L: KARPOVICH A L: GUSAREVA E V: MAIDENKO T KH: KHASHAEV Z KH-M: MEDVEDEVA T D. INTERCELLULAR INTERACTIONS IN EARLY SEA URCHIN EMBRYOS 2. DATED MECHANICAL SEPARATION OF BLASTOMERES. SOV J DEV BIOL. 12. 1981-1982. 258-262.

DOREE, M; PICARD A; CAVADORE J C; LE PEUCH C; DEMAILLE J G. CALMODULIN AND HORMONAL CONTROL OF MEIOSIS IN STARFISH *MARTHASTERIAS GLACIALIS* OOCYTES. EXP CELL RES. 139. 1982. 135-144.

DOREE M. PROTEIN SYNTHESIS IS NOT INVOLVED IN INITIATION OR AMPLIFICATION OF THE MATURATION PROMOTING FACTOR IN STARFISH *MARTHASTERIAS GLACIALIS* OOCYTES. EXP. CELL RES. 139. 1982. 127-134.

WINKLER, M.M.; MATSON, G.B.; HERSEY, J.W.B.; BRADBURY E.M. PHOSPHORUS-31 NMR STUDY OF THE ACTIVATION OF THE SEA URCHIN *STRONGYLOCENTROTUS PURPURATUS* EGG. EXP. CELL. RES. 139. 1982. 217-222.

KATOW, H; SOLURSH, M. IN SITU DISTRIBUTION OF CONCANAVALIN A BINDING SITES IN SESENCHYME BLASTULAE AND EARLY GASTRULAE OF THE SEA URCHIN *LYTECHINUS PICTUS*. EXP. CELL RES. 139. 1982. 171-180.

ISHIDA, K; YASUMASU, I. THE PERIODIC CHANGE IN CYCLIC AMP CONCENTRATION IN SEA URCHIN *ANTHOCIDARIS CRASSIPINA* EGGS. BIOCHIM. BIOPHYS ACTA. 720. 1982. 266-273.

YOSHIDA, M; AKETA, K. PARTIAL PURIFICATION OF THE SPERM BINDING FACTOR FROM THE EGG OF THE SEA URCHIN *ANTHOCIDARIS CRASSIPSINA* FOLLOWED BY AN IMMUNOLOGICAL METHOD. DEV. GROWTH DIFFER. 24. 1982. 55-64.

SHIMADA, H; TERAYAMA, H; FUJIWARA, A; YASUMASU, I. MELLITIN A COMPONENT OF BEE VENOM ACTIVATES UNFERTILIZED SEA URCHIN EGGS. DEV. GROWTH DIFFER. 24. 1982. 7-16.

SMETANINA, O.F; NAIT, E; KUZNETSOVA, T.A., ELYAKOV, G.B. SULFATED DERIVATIVES FROM MARINE ORGANISMS 2. SULFATED STEROID ALCOHOLS FROM *HOLOTHURIAE PARATHYONA* SP. *HOLOTHUROIDEA CUCUMARIIDAE*. KHIM. PRIR. SOEDIN (TASK). 0 (5). 1981. 585-588.

WATANABE, M; BERTOLINI D.R.; SCHNITMAN, J.R; TURNER, R.S. JR. RECONSTITUTION OF EMBRYO-LIKE STRUCTURES FROM SEA URCHIN *STRONGYLOCENTROTUS PURPURATUS* EMBRYO CELLS DISTINCTION BETWEEN CELL-CELL AND CELL SUBSTRATE ASSOCIATIONS. DIFFERENTIATION. 21. 1982. 79-85.

ROSENTHAL, E.T; BRANDHORST, B.P; RUDERMAN, J.V. TRANSLATIONALLY MEDIATED CHANGES IN PATTERNS OF PROTEIN SYNTHESIS DURING MATURATION OF STARFISH *ASTERIAS FORBESI* OOCYTES. DEV. BIOL. 91. 1982. 215-220.

SHIODA, M; NAGANO, H; MANO, Y. TRANSITION OF DNA POLYMERASE ALPHA AND ENDOPLASMIC RETICULUM DURING GASTRULATION OF THE SEA URCHIN *HEMICENTROTUS PULCHERRIMUS*. DEV. BIOL. 91. 1982. 111-120.

SUZUKI, S; SUGI, H. PHYSIOLOGICAL AND ULTRASTRUCTURAL STUDIES ON THE LONGITUDINAL RETRACTOR MUSCLE OF A SEA CUCUMBER *STICHOPUS JAPONICUS*. 2. INTRACELLULAR LOCALIZATION AND TRANSLOCATION OF ACTIVATOR CALCIUM DURING MECHANICAL ACTIVITY. J. EXP. BIOL. 97. 1982. 113-120.

SUGI, H; SUZUKI, S; TUSCHIYA, T; GOMI, S; FUJIEDA, N. PHYSIOLOGICAL AND ULTRASTRUCTURAL STUDIES ON THE LONGITUDINAL RETRACTOR MUSCLE OF A SEA CUCUMBER *STICHOPUS JAPONICUS*. 1. FACTORS INFLUENCING THE MECHANICAL RESPONSE. J. EXP. BIOL. 97. 1982. 101-112.

BARBIER, B.; FERRAND, J.-G. ELECTROPHORETIC STUDY OF ACID PHOSPHATASES IN OOCYTES OF *ASTERINA GIBBOSA* AND *ASTERIAS RUBENS* ECHINODERMS ASTEROIDS. C R SEANACES ACAD. SCI. SER III. SCI VIE. 293. 1981. 439-442.

GARBERS, D.L.; WATKINS, H.D; HANSBROUGH, J.R; SMITH, A; MISONO, K.S. THE AMINO ACID SEQUENCE AND CHEMICAL SYNTHESIS OF SPERACT AND SPERACT ANALOGS. J. BIOL. CHEM. 257. 1982. 2734-2737 (ECHINOIDEA).

VAN HELDEN, P.D. A THEORETICAL CONSIDERATION OF THE LYSINE-RICH HISTONES H-1 FROM A MAMMAL AND AN ECHINODERM H-5 FROM ERYTHROCYTES. J. THEOR. BIOL. 96. 1982. 327-336. (ECHINOIDEA).

DEVORE, D.E; BRODIE, E.D. JR. PALATABILITY OF THE TISSUES OF THE HOLOTHURIAN *THYONE BRIAREUS* TO FISH. J. EXP. MAR. ECOL. 61. 1982. 279-286.

ENGSTROM, N.A. IMMIGRATION AS A FACTOR IN MAINTAINING POPULATIONS OF THE SEA URCHIN *LYTECHINUS VARIEGATUS* ECHINODERMATA ECHINOIDEA IN SEAGRASS BEDS ON THE SOUTHWEST COAST OF PUERTO RICO. STUD. NEOTROP. FAUNA ENVIRON. 17. 1982. 51-60.

MOTOKAWA T. STIFFNESS CHANGE OF THE HOLOTHURIAN STICHOPUS CHLORONOTUS DETERMIS CAUSED BY CHEMICAL AND ELECTRICAL STIMULATION. COMP BIOCHEM PHYSIOL 70C. 1981. 41-48.

CAVEY M J: WOOD R L. SPECIALIZATIONS FOR EXCITATION CONTRACTION COUPLING IN THE PODIAL RETRACTOR CELLS OF THE STARFISH STYLASTERIAS FORRERI. CELL TISSUE RES. 218. 1981. 475-486.

STRICKLAND W N: STRICKLAND M: VON HOLT C. A COMPARISON OF THE AMINO ACID SEQUENCES OF HISTONES H-1 FROM THE SPERM OF ECHINOLAMPAS CRASSA AND PARECHINUS ANGULOSUS. BIOCHIM BIOPHYS ACTA. 700. 1982. 127-129.

MINTZ G R: DEFRAZESCO S: LENNARZ W J. SPICULE FORMATION BY CULTURED EMBRYONIC CELLS FROM THE SEA URCHIN STRONGYLOCENTROTUS PURPURATUS. J BIOL. CHEM. 256. 1981. 13105-13111.

BEHLKE J: ZALENSKAYA I A: OSIPOVA T N. MOLAR MASS OF HISTONE H-1 FROM SPERM OF THE SEA URCHIN STRONGYLOCENTROTUS INTERMEDIUS. STUD BIOPHYS. 85. 1981. 101-106.

LECLERC M: BRILLOUET C: LUQUET G: AGOGUE P: BINAGHI R A. PROPERTIES OF CELL SUBPOPULATIONS OF STARFISH ASTERIAS RUBENS AXIAL ORGAN IN VITRO EFFECT OF POKEWEEED MITOGEN AND EVIDENCE OF LYMPHOKINE-LIKE SUBSTANCES. SCAND J IMMUNOL. 14. 1981. 281-284.

GROSSCHEDL R: BIRNSTIEL M L. DELIMITATION OF FAR UPSTREAM SEQUENCES REQUIRED FOR MAXIMAL IN VITRO TRANSCRIPTION OF AN H-2A HISTONE GENE. PROC NATL ACAD SCI USA. 79. 1982. 297-301. (Echinoidea)

THOMAS T L: POSAKONY J W: ANDERSON D M: BRITTON R J: DAVIDSON E H. MOLECULAR STRUCTURE OF MATERNAL RNA. CHROMOSOMA. 84. 1981. 319-336.

WHARTON W G: MANN K H. RELATIONSHIP BETWEEN DESTRUCTIVE GRAZING BY THE SEA URCHIN STRONGYLOCENTROTUS DROEBACHIENSIS AND THE ABUNDANCE OF AMERICAN LOBSTER HOMARUS AMERICANUS ON THE ATLANTIC COAST OF NOVA SCOTIA, CANADA. CAN J FISH AQUAT SCI. 38. 1981. 1339-1349.

DAY, R W: OSMAN R W. PREDATION BY PATIRIA MINIATA(ASTEROIDEA)ON BRYOZOANS. PREY DIVERSITY MAY DEPEND ON THE MECHANISM OF SUCCESSION. OECOLOGIA. 51. 1981. 300-309.

FEEDER H M. FEEDING BIOLOGY OF THE BRITTLE STAR OPHIURA TEXTURATA. OPHELIA. 20. 1981. 215-235.

LITVINNOVA N M: SMIRNOV I S. ASTROPHIURA TIKI NEW SPECIES (ECHINODERMATA: OPHIUROIDEA) ZOOL ZH. 60. 1981. 626-629.

MANCHENKO B P: GLAZKO V I. ELECTROPHORETIC STUDY OF INTRASPECIFIC VARIABILITY OF THE MEMBRANE PROTEINS OF STARFISHES. DOKL BIOL SCI. 256. 1981. 36-39.

BOHM L: FRICKE A H. A SHORT TERM ASSAY OF SEA URCHIN PARECHINUS ANGULOSUS SKELETAL GROWTH BASED ON CALCIUM-45 INCORPORATION. KIEL MEERESFORSCH. (5). 1981. 554-556.

HENTSCHEL C C. HOMO COPOLYMER SEQUENCES IN THE SPACER OF A SEA URCHIN HISTONE GENE REPEAT ARE SENSITIVE TO S-1 NUCLEASE. NATURE. 295. 1982. 714-716.

STRICKLAND M: STRICKLAND W N: VON HOLT C. OCCURRENCE OF SPERM ISOHISTONES H-2B IN SINGLE SEA URCHINS (PARECHINUS ANGULOSUS). FED EUR BIOCHEM SOC LETT. 135. 1981. 86-88.

FRANZEN-BENGTSON C. RADIAL PERFORATIONS IN CRINOID STEMS FROM THE SILURIAN OF GOTLAND. LETHAIA. 16. 291-302.

SHRAM F R. METHODS AND MADNESS IN PHYLOGENY. IN: CRUSTACEAN PHYLOGENY. BALKEMA. ROTTERDAM. 331-350 (ECHINODERM SUBPHYLUM)

ROMAN J. ECHINIDES "MARSUPIAUX" (FAM. TEMNOPLEURIDAE) DANS LE NEOGENE DE L'OUEST EUROPEEN. ANN. PALEONT. (VERT.-INVERT.). 1983. 69. 13-42.

ROMAN J: SORNAY J. AMMONITES, INOCERAMES ET ECHINIDES DU CRETACE SUPERIEUR DE PAKI (SENEGAL). BULL. MUS. NATN. HIST. NAT. 4e SER., 5. SECT C. (1). 3-23.

BHAUD M: D AUBIN: G DUHAMEL. RECRUTEMENT DU SUBSTRAT EN LARVES D'INVERTEBRES ROLE DE L'HYDRODYNAMISME. OCEANIS. 1981. OCEANIS. 7. 97-113. (AST, OPH, ECH)

DUHAMEL G. CARACTERISTIQUES BIOLOGIQUES DES PRINCIPALES ESPECES DE POISSONS DU PLATEAU CONTINENTAL DES ILES KERGUELEN. 1981. CYBIUM 3e SER. 5. 19-32 (OPH AS PREY)

NESTER H. ECHINIDEN AUS DEM UNTER-NAASTRUGT DER UBSEK REGION. Z GEOL WISS. 1979. 7, 663-667.